OFFICIAL STATEMENT

NEW ISSUES
Book-Entry-Only

Electric Ratings:	**S&P:**	**"AA"**
	Moody's:	**"Aa2"**
Gas Ratings:	**S&P:**	**"AA"**
	Moody's:	**"Aa2"**
Water Ratings:	**S&P:**	**"AAA"**
	Moody's:	**"Aa1"**
Wastewater Ratings:	**S&P:**	**"AA+"**
	Moody's:	**"Aa2"**

(See "MISCELLANEOUS: Ratings" herein)

In the opinion of Bond Counsel, based on existing law and assuming compliance with certain tax covenants of the Knoxville Utilities Board ("KUB"), interest on the Bonds will be excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. For an explanation of certain tax consequences under federal law which may result from the ownership of the Bonds, see the discussion under the heading "LEGAL MATTERS – Tax Matters" herein. Under existing law, the Bonds and the income therefrom will be exempt from all state, county and municipal taxation in the State of Tennessee, except Tennessee franchise and excise taxes. (See "LEGAL MATTERS – Tax Matters" herein).

$336,095,000

CITY OF KNOXVILLE, TENNESSEE

$ 70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021
$ 41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021
$ 33,180,000 Water System Revenue Refunding Bonds, Series LL-2021
$190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A

Dated: April 19, 2021 Due: As shown herein

The City of Knoxville, Tennessee (the "City") $70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021 ("Electric Bonds" or "Electric Series LL-2021 Bonds"), $41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021 ("Gas Bonds" or "Series AA-2021 Bonds"), $33,180,000 Water System Revenue Refunding Bonds, Series LL-2021 ("Water Bonds" or "Water Series LL-2021 Bonds"), and the $190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A ("Wastewater Bonds" or "Series 2021A Bonds"), collectively, referred to as the "Bonds" are issuable in book-entry-only form. The Bonds will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository of the Bonds. So long as Cede & Co. is the registered owner of the Bonds, as the nominee for DTC, principal and interest with respect to the Bonds shall be payable to Cede & Co., as nominee for DTC, which will, in turn, remit such principal and interest to the DTC participants for subsequent disbursements to the Beneficial Owners of the Bonds. Individual purchases of the Bonds will be made in book-entry-only form only, in denominations of $5,000 or integral multiples thereof and will bear interest at the annual rates as shown on the inside cover. Interest on the Electric Bonds will be payable semi-annually on January 1 and July 1 each year, commencing January 1, 2022. Interest on the Gas Bonds will be payable semi-annually on March 1 and September 1 each year, commencing September 1, 2021. Interest on the Water Bonds will be payable semi-annually on March 1 and September 1 each year, commencing September 1, 2021. Interest on the Wastewater Bonds will be payable semi-annually on April 1 and October 1 each year, commencing October 1, 2021. Beneficial Owners of the Bonds will not receive physical delivery of Bond certificates. (See "The Bonds" - Book-Entry-Only System herein.)

The Bonds are being issued to provide funds to pay the costs to refinance the debt of the Electric System, the Gas System, the Water System and the Wastewater System, as described herein, and to pay the cost of issuing the Bonds as more fully described in a subsequent part of this *Official Statement*.

The Bonds will be issued pursuant to and secured by bond resolutions of the City of Knoxville ("City") and will be payable solely from the net revenues of the Electric System, the Gas System, the Water System and the Wastewater System, respectively, of the City, which are operated by the Knoxville Utilities Board ("KUB"). The Bonds do not constitute a debt of the City within the meaning of any constitutional, City Charter or statutory limitation, and neither the faith and credit of the State of Tennessee nor the faith and credit of the City or any other political subdivision are pledged to the payment of the principal of or premium or interest on the Bonds.

A portion of the Bonds are subject to optional redemption prior to maturity as described herein.

Bonds are offered when, as and if issued by the City subject to the approval of the legality thereof by Bass, Berry & Sims PLC, Knoxville, Tennessee, Bond Counsel, whose opinions will be delivered with the Bonds. Certain legal matters will be passed upon for Knoxville Utilities Board by Hodges, Doughty & Carson, PLLC, Knoxville, Tennessee, General Counsel to the Knoxville Utilities Board. It is expected the Bonds will be available for delivery in book-entry-only form, through the facilities of The Depository Trust Company, New York, New York on or about April 19, 2021.

Cumberland Securities Company, Inc.

Municipal Advisor

March 24, 2021 for Electric and Gas Bonds; and March 25, 2021 for Water and Wastewater Bonds.

ELECTRIC SYSTEM REVENUE REFUNDING BONDS
SERIES LL-2021

Maturity (July 1)	Amount	Interest Rate	Yield		CUSIP**
2022	$4,610,000	5.00%	0.16%		499746 Q40
2023	4,855,000	5.00	0.24		499746 M69
2024	5,015,000	5.00	0.36		499746 M77
2025	2,745,000	5.00	0.48		499746 M85
2026	2,890,000	5.00	0.61		499746 M93
2027	2,995,000	5.00	0.75		499746 N27
2028	3,315,000	5.00	0.89		499746 N35
2029	3,465,000	5.00	1.02		499746 N43
2030	2,525,000	5.00	1.14		499746 N50
2031	3,495,000	5.00	1.22		499746 N68
2032	2,850,000	5.00	1.26		499746 N76
2033	2,845,000	5.00	1.33	c	499746 N84
2034	$2,845,000	5.00%	1.38%	c	499746 N92
2035	2,845,000	4.00	1.53	c	499746 P25
2036	2,845,000	4.00	1.62	c	499746 P33
2037	2,845,000	4.00	1.66	c	499746 P41
2038	2,845,000	4.00	1.69	c	499746 P58
2039	2,845,000	4.00	1.73	c	499746 P66
2040	2,845,000	4.00	1.77	c	499746 P74
2041	2,845,000	4.00	1.81	c	499746 P82
2042	2,845,000	4.00	1.85	c	499746 P90
2043	1,485,000	4.00	1.89	c	499746 Q24
2044	1,485,000	4.00	1.92	c	499746 Q32

c = Yield to call on July 1, 2032.

GAS SYSTEM REVENUE REFUNDING BONDS
SERIES AA-2021

Maturity (March 1)	Amount	Interest Rate	Yield		CUSIP**
2022	$4,005,000	5.00%	0.15%		499764 XZ6
2023	3,730,000	5.00	0.20		499764 YA0
2024	3,590,000	5.00	0.33		499764 YB8
2025	3,395,000	5.00	0.46		499764 YC6
2026	3,220,000	5.00	0.58		499764 YD4
2027	3,130,000	5.00	0.71		499764 YE2
2028	$3,625,000	5.00%	0.85%		499764 YF9
2029	3,450,000	4.00	0.99	c	499764 YG7
2030	3,230,000	4.00	1.12	c	499764 YH5
2031	3,285,000	4.00	1.20	c	499764 YJ1
2032	3,865,000	4.00	1.28	c	499764 YK8
2033	3,395,000	4.00	1.34	c	499764 YL6

c = Yield to call on March 1, 2028.

WATER SYSTEM REVENUE REFUNDING BONDS
SERIES LL-2021

Maturity (March 1)	Amount*	Interest Rate	Yield		CUSIP**
2022	$1,225,000	5.00%	0.12%		499818 3A8
2023	1,265,000	5.00	0.17		499818 3B6
2024	1,305,000	5.00	0.31		499818 3C4
2025	1,350,000	5.00	0.42		499818 3D2
2026	1,400,000	5.00	0.53		499818 3E0
2027	1,450,000	5.00	0.66		499818 3F7
2028	2,210,000	5.00	0.81		499818 3G5
2029	2,340,000	5.00	0.95		499818 3H3
2030	2,450,000	5.00	1.08		499818 3J9
2031	1,105,000	5.00	1.17		499818 3K6
2032	1,070,000	5.00	1.23		499818 3L4
2033	1,000,000	4.00	1.30	c	499818 3M2
2034	$1,175,000	4.00%	1.35%	c	499818 3N0
2035	1,215,000	4.00	1.41	c	499818 3P5
2036	1,255,000	4.00	1.45	c	499818 3Q3
2037	1,285,000	4.00	1.50	c	499818 3R1
2038	1,335,000	4.00	1.54	c	499818 3S9
2039	1,370,000	4.00	1.58	c	499818 3T7
2040	1,405,000	4.00	1.62	c	499818 3U4
2041	1,460,000	4.00	1.66	c	499818 3V2
2042	1,470,000	4.00	1.70	c	499818 3W0
2043	1,520,000	4.00	1.74	c	499818 3X8
2044	1,520,000	4.00	1.77	c	499818 3Y6

c = Yield to call on March 1, 2032.

WASTEWATER SYSTEM REVENUE REFUNDING BONDS
SERIES 2021A

Maturity (April 1)	Amount	Interest Rate	Yield		CUSIP**
2022	$ 3,490,000	4.00%	0.12%		499815 A99
2023	3,060,000	4.00	0.18		499815 B23
2024	6,085,000	4.00	0.30		499815 B31
2025	6,150,000	4.00	0.425		499815 B49
2026	8,360,000	4.00	0.55		499815 B56
2027	8,535,000	5.00	0.67		499815 B64
2028	9,760,000	5.00	0.82		499815 B72
2029	10,260,000	5.00	0.96		499815 B80
2030	10,800,000	5.00	1.08		499815 B98
2031	11,315,000	5.00	1.16		499815 C22
2032	11,935,000	5.00	1.21		499815 C30
2033	12,550,000	4.00	1.33	c	499815 C48
2034	13,015,000	4.00	1.39	c	499815 C55
2035	13,550,000	4.00	1.45	c	499815 C63
2036	$10,885,000	4.00%	1.50%	c	499815 C71
2037	11,430,000	4.00	1.55	c	499815 C89
2038	2,465,000	4.00	1.60	c	499815 C97
2039	2,595,000	4.00	1.65	c	499815 D21
2040	2,705,000	4.00	1.70	c	499815 D39
2041	3,515,000	4.00	1.74	c	499815 D47
2042	3,655,000	4.00	1.78	c	499815 D54
2043	3,920,000	4.00	1.82	c	499815 D62
2044	4,110,000	4.00	1.85	c	499815 D70
2045	4,335,000	4.00	1.88	c	499815 D88
2046	4,580,000	4.00	1.89	c	499815 D96
2047	4,830,000	4.00	1.90	c	499815 E20
2048	1,425,000	4.00	1.91	c	499815 E38
2049	1,500,000	4.00	1.92	c	499815 E46

c = Yield to call on April 1, 2032.

** Copyright, American Bankers Association (the "ABA"). CUSIP data herein are provided by CUSIP Global Services, which is managed on behalf of the ABA by S&P Global Market Intelligence, a division of S&P Global Inc. The CUSIP numbers listed above are being provided solely for the convenience of Bondholders only at the time of issuance of the Bonds and the Municipality makes no representation with respect to such numbers nor undertakes any responsibility for their accuracy now or at any time in the future. The CUSIP number for a specific maturity is subject to being changed after the issuance of the Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of certain maturities of the Bonds.

This *Official Statement* speaks only as of its date, and the information contained herein is subject to change.

This *Official Statement* may contain forecasts, projections, and estimates that are based on current expectations but are not intended as representations of fact or guarantees of results. If and when included in this *Official Statement*, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates," and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties, which could cause actual results to differ materially from those contemplated in such forward-looking statements. These forward-looking statements speak only as of the date of this *Official Statement*. The Issuer disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Issuer's expectations with regard thereto or any change in events, conditions, or circumstances on which any such statement is based.

This *Official Statement* and the Appendices hereto contain brief descriptions of, among other matters, KUB, the Bonds, the Resolution, the Disclosure Certificate (as defined herein), and the security and sources of payment for the Bonds. Such descriptions and information do not purport to be comprehensive or definitive. The summaries of various constitutional provisions and statutes, the Resolution, the Disclosure Certificate, and other documents are intended as summaries only and are qualified in their entirety by reference to such documents and laws, and references herein to the Bonds are qualified in their entirety to the forms thereof included in the Resolution.

The Bonds have not been registered under the Securities Act of 1933, and the Resolution has not been qualified under the Trust Indenture Act of 1939, in reliance on exemptions contained in such Acts. This *Official Statement* does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation, or sale.

No dealer, broker, salesman, or other person has been authorized by the Issuer or the Underwriter to give any information or to make any representations other than those contained in this *Official Statement*, and, if given or made, such other information or representations should not be relied upon as having been authorized by the Issuer or the Underwriter. Except where otherwise indicated, all information contained in this *Official Statement* has been provided by KUB. The information set forth herein has been obtained by KUB from sources which are believed to be reliable but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of the Underwriter. The information contained herein is subject to change without notice, and neither the delivery of this *Official Statement* nor any sale made hereunder shall under any circumstances create an implication that there has been no change in the affairs of the Issuer, or the other matters described herein since the date hereof or the earlier dates set forth herein as of which certain information contained herein is given.

In connection with this offering, the Underwriter may over-allot or effect transactions which stabilize or maintain the market prices of the Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

CITY OF KNOXVILLE, TENNESSEE
KNOXVILLE UTILITIES BOARD

COMMISSIONERS

Jerry Askew, Chair
John Worden, Vice Chair
Claudia Caballero
Kathy Hamilton
Celeste Herbert
Adrienne Simpson-Brown
Tyvi Small

OFFICERS

Gabriel J. Bolas II, President and Chief Executive Officer
Mark A. Walker, Senior Vice President and Chief Financial Officer
Susan F. Edwards, Senior Vice President and Chief Administrative Officer
H. Edward Black, Senior Vice President and Chief Technology Officer
Derwin G. Hagood, Senior Vice President and Chief Operating Officer
John W. Williams III, Senior Vice President of Engineering and Construction
Tiffany Martin, Vice President and Chief Customer Officer

GENERAL COUNSEL

Hodges, Doughty & Carson, PLLC
Knoxville, Tennessee

UNDERWRITERS

Electric **Series LL-2021**	**Gas** **Series AA-2021**	**Water** **Series LL-2021**	**Wastewater** **Series 2021A**
Jefferies LLC New York, New York	J.P. Morgan Securities LLC New York, New York	Piper Sandler & Co. Minneapolis, Minnesota	Barclays Capital Inc. New York, New York

MUNICIPAL ADVISOR

Cumberland Securities Company, Inc.
Knoxville, Tennessee

BOND COUNSEL

Bass, Berry & Sims PLC
Knoxville, Tennessee

INDEPENDENT ACCOUNTANTS

Coulter & Justus, P.C.
Knoxville, Tennessee

REGISTRATION AND PAYING AGENT

Regions Bank
Nashville, Tennessee

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SUMMARY STATEMENT

The information set forth below is provided as a summary for convenient reference only; the information is not and does not purport to be complete and is qualified in its entirety by the information and financial statements appearing elsewhere in this *Official Statement*. No person is authorized to distribute or rely upon all or any part of the information in this "Summary Statement" without the balance of this *Official Statement*, including, all exhibits and appendices hereto.

The Bonds..........................City of Knoxville, Tennessee (the "City") $70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021 ("Electric Bonds" or "Electric Series LL-2021 Bonds"), $41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021 ("Gas Bonds" or "Series AA-2021 Bonds"), $33,180,000 Water System Revenue Refunding Bonds, Series LL-2021 ("Water Bonds" or "Water Series LL-2021 Bonds"), and the $190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A ("Wastewater Bonds" or "Series 2021A Bonds"), dated April 19, 2021. The Electric Bonds, Gas Bonds, Water Bonds and the Wastewater Bonds will be collectively referred to as the "Bonds".

Purpose ....The Bonds are being issued to provide funds to refinance debt as described herein relating to the Electric System, the Gas System, the Water System and the Wastewater System (collectively, the "Systems"), and the payment of legal, fiscal, administrative and engineering costs incident thereto and incident to the issuance and sale of the Bonds.

Security..............................The Bonds will be issued pursuant to and secured by bond resolutions of the City and will be payable solely from the net revenues of the Systems, respectively, as further described herein.

Redemption........................The Electric Bonds maturing on and after July 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after July 1, 2032 at the redemption price of par plus accrued interest as provided herein. The Gas Bonds maturing on and after March 1, 2029 will be subject to redemption prior to maturity at the option of the Board on or after March 1, 2028 at the redemption price of par plus accrued interest as provided herein. The Water Bonds maturing on and after March 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after March 1, 2032 at the redemption price of par plus accrued interest as provided herein. The Wastewater Bonds maturing on and after April 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after April 1, 2032 at the redemption price of par plus accrued interest as provided herein.

Rates ....Rates and fees for services provided by the Systems are established by the Board of Commissioners of the Knoxville Utilities Board (the "Board"). The Electric System, Gas System, Water System and the Wastewater System are not otherwise subject to rate regulation, and KUB is not aware of any pending legislation which would make its rates and fees subject to regulation.

Rate Covenants..................The bond resolutions require the Board to fix rates as to each System to provide revenues sufficient to pay related expenses and obligations and to meet a 1.20 debt service coverage ratio, all as more fully hereinafter described.

Additional Electric
Revenue Bonds...............The City, acting by and through KUB may issue additional bonds, notes or other obligations pursuant to the Electric Bond Resolution provided that all payments required to be made to the Electric Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Electric Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Electric System and the money on deposit in the Electric Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Electric Bond Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Electric System

for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Electric System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Electric Bond Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Electric Bond Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Electric System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Electric System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Gas Revenue Bonds..............The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Gas Bond Resolutions (as defined herein) provided that all payments required to be made to the Gas Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Gas Bond Resolutions with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Gas System and the money on deposit in the Gas Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Gas Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Gas System for which outstanding parity indebtedness has previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Gas System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Gas Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Gas Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Gas System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Gas System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Water Revenue Bonds..............The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Water Bond Resolutions (as defined herein), provided that all payments required to be made to the Water Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Water System and the money on deposit in the Water Debt Service Fund for the purpose of (i) refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Water Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Water System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Water System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Water Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Water Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Water System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Water System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Additional Wastewater Revenue Bonds..............The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Wastewater Bond Resolution provided that all payments required to be made to the Wastewater Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Wastewater Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Wastewater System and the money on deposit in the Wastewater Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Wastewater Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Wastewater System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Wastewater System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Wastewater Bond Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Wastewater

Bond Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Wastewater System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Wastewater System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

Combined Operation of Any System Permitted in the Future..................... To the extent permitted by law, the Board may combine any or all the City's utility systems into a single unified operation (the "Combined System") and commingle the revenues of the System in the Combined System without keeping separate accounts of the funds of each of such System, provided payments from the funds of the Combined System are required to be made into the respective Debt Service Funds from time to time in amounts sufficient to pay the principal of and interest as such principal and interest becomes due. Bonds and notes ("Parity Bonds") payable from revenues of the Combined System may be issued on a parity with outstanding bonds secured by a System's revenues provided at the time of the issuance of any such Parity Bonds, among other things, the net earnings of the Combined System after making provision for the payment of periodic installments of principal and interest on any bonds having a superior lien on a system or the revenues of any such system, for a period of twelve consecutive months (the "Twelve-Month Period") out of the fifteen months immediately preceding the issuance of such Parity Bonds shall be equal to at least 1.2 times the highest combined principal and interest requirement for any period of twelve consecutive months beginning on July 1 of any succeeding calendar year on all bonds outstanding and to be then issued directly payable from the revenues of the Combined System.

If within twelve months prior to the issuance of the Parity Bonds, the Board shall have put into effect a revised schedule of rates for the Combined System or any part thereof, then the net earnings of the Combined System for the Twelve-Month Period, as certified by independent consultants, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual net earnings for such Twelve-Month Period.

Tax Matters......................... In the opinion of Bond Counsel, based on existing law and assuming compliance with certain tax covenants by KUB, interest on the Bonds will be excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. For an explanation of certain tax consequences under federal law which may result from the ownership of the Bonds, see the discussion under the heading "LEGAL MATTERS – Tax Matters" herein. Under existing law, the Bonds and the income therefrom will be exempt from all state, county and municipal taxation in the State of Tennessee, except Tennessee franchise and excise taxes. (See "LEGAL MATTERS – Tax Matters" herein).

Registration and Paying Agent .... Regions Bank, Nashville, Tennessee.

Bond Counsel .... Bass, Berry & Sims PLC, Knoxville, Tennessee.

Municipal Advisor............ Cumberland Securities Company, Inc.

General............................. The Bonds will be issued pursuant to Chapter 34, Title 7, and Chapter 21, Title 9, *Tennessee Code Annotated*, as amended (the "Act"). See the sections entitled SECURITIES OFFERED, herein. The Bonds will be issued with CUSIP numbers through the facilities of The Depository Trust Company, New York, New York.

Disclosure .... In accordance with Rule 15c2-12 promulgated under the Securities Exchange Act of 1934 as amended, the City, acting by and through KUB, will provide the Municipal Securities

Rulemaking Board ("MSRB") through the operation of the Electronic Municipal Market Access system ("EMMA") and the State Information Depository ("SID") established in Tennessee, if any, annual financial statements and other pertinent credit information, including the Comprehensive Annual Financial Reports of KUB for the Systems. For additional information, see the section entitled "MISCELLANEOUS - Continuing Disclosure" for additional information.

Other Information............ The information in the *Official Statement* is deemed "final" within the meaning of Rule 15c2-12 promulgated under the Securities Exchange Act of 1934 as of the date which appears on the cover hereof. For more information concerning the City and the Board or the *Official Statement*, Cumberland Securities Company, Inc., Knoxville, Tennessee, Telephone: (865) 988-2663.

ELECTRIC DIVISION
For the Years Ended June 30

	2016	**2017**	**2018**	**2019**	**2020**
Operating Revenues	$521,369,202	$546,364,012	$560,110,507	$558,369,583	$547,686,983
Operating Expenses*	(457,111,381)	(480,415,840)	(480,157,565)	(479,218,014)	(463,108,450)
Net Income Before Depreciation & Taxes	$64,257,821	$65,948,172	$79,952,942	$79,151,569	$84,578,533
Other Revenue	549,060	899,405	1,635,170	2,666,532	1,579,182
FICA Tax Expense	(1,894,298)	(2,079,439)	(2,156,841)	(2,251,026)	(2,265,718)
Income Available for Debt Service	$62,912,583	$64,768,138	$79,431,271	$79,567,075	$83,891,997
Debt Service on Senior Bonds	$19,192,916	$19,959,199	$21,318,583	$23,535,838	$25,456,523
Bond Coverage	3.28x	3.25x	3.73x	3.38x	3.30x

GAS DIVISION
For the Years Ended June 30

	2016	**2017**	**2018**	**2019**	**2020**
Operating Revenues	$88,441,144	$91,868,316	$114,539,188	$108,551,679	$102,565,268
Operating Expenses*	(58,177,063)	(61,803,669)	(72,485,040)	(69,114,340)	(63,242,519)
Net Income Before Depreciation & Taxes	$30,264,081	$30,064,647	$42,054,148	$39,437,339	$39,322,749
Other Revenue	183,418	290,772	634,149	1,167,245	834,141
FICA Tax Expense	(653,095)	(704,651)	(755,423)	(713,329)	(800,899)
Income Available for Debt Service	$29,794,404	$29,650,768	$41,932,874	$39,891,255	$39,355,991
Debt Service on Senior Bonds	$9,437,262	$9,916,869	$10,248,025	$10,859,512	$12,931,780
Bond Coverage	3.16x	2.99x	4.09x	3.67x	3.04x

Source: The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Electric, Gas, Water and Wastewater Divisions and should be read in conjunction therewith.

* Excluding Provision for Depreciation and Taxes.

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WATER DIVISION
For the Years Ended June 30

	2016	2017	2018	2019	2020
Operating Revenues	$47,453,401	$50,769,639	$54,365,215	$58,073,479	$62,473,524
Operating Expenses*	(23,334,846)	(25,036,614)	(25,679,753)	(27,921,639)	(26,876,266)
Net Income Before Depreciation & Taxes	$24,118,555	$25,733,025	$28,685,462	$30,151,840	$35,597,258
Other Revenue	194,146	307,829	588,153	885,864	841,842
FICA Tax Expense	(740,757)	(791,923)	(846,313)	(906,770)	(948,179)
Income Available for Debt Service	$23,571,944	$25,248,931	$28,427,302	$30,130,934	$35,490,921
Debt Service on Senior Bonds	$10,162,232	$10,759,521	$11,630,115	$13,024,114	$14,023,460
Bond Coverage	2.32x	2.35x	2.44x	2.31x	2.53x

WASTEWATER DIVISION
For the Years Ended June 30

	2016	2017	2018	2019	2020
Operating Revenues	$83,645,509	$88,517,210	$94,715,764	$98,482,153	$101,335,524
Operating Expenses*	(31,511,199)	(31,930,440)	(30,939,200)	(35,653,145)	(36,122,051)
Net Income Before Depreciation & Taxes	$52,134,310	$56,586,770	$63,776,564	$62,829,008	$65,213,473
Other Revenue	461,544	641,747	1,205,290	1,906,274	1,484,440
FICA Tax Expense	(747,389)	(778,144)	(820,374)	(888,376)	(923,081)
Income Available for Debt Service	$51,848,465	$56,450,373	$64,161,480	$63,846,906	$65,774,832
Debt Service on Senior Bonds	$30,819,779	$31,494,379	$32,372,447	$33,447,001	$34,204,172
Bond Coverage	1.68x	1.79x	1.98x	1.91x	1.92X

Source: The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Water and Wastewater Divisions and should be read in conjunction therewith.

* Excluding Provision for Depreciation and Taxes.

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$336,095,000
CITY OF KNOXVILLE, TENNESSEE
$ 70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021
$ 41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021
$ 33,180,000 Water System Revenue Refunding Bonds, Series LL-2021
$190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A

SECURITIES OFFERED

AUTHORITY AND PURPOSE

This *Official Statement*, which includes the cover page and "Summary Statement" hereof and the appendices hereto, is furnished in connection with the offering by the City of Knoxville, Tennessee (the "City") of its $70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021 ("Electric Bonds" or "Electric Series LL-2021 Bonds"), $41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021 ("Gas Bonds" or "Series AA-2021 Bonds"), $33,180,000 Water System Revenue Refunding Bonds, Series LL-2021 ("Water Bonds" or "Water Series LL-2021 Bonds"), and the $190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A ("Wastewater Bonds" or "Series 2021A Bonds"). The Electric Bonds, Gas Bonds, Water Bonds, and Wastewater Bonds will be collectively referred to as the "Bonds".

The Electric Bonds are being issued pursuant to Chapter 34, Title 7, and Chapter 21, Title 9, *Tennessee Code Annotated,* as amended (the "Act"), the Charter of the City (the "City Charter"), other applicable statutes, and pursuant to Resolution No. 1644 adopted by the City on January 4, 1949 as amended and supplemented by Resolution No. 2171 adopted February 22, 1955; Resolution No. 3491 adopted by the City on February 21, 1967; Resolution R-317-90 adopted by the City on October 30, 1990; Resolution No. R-469-92 adopted by the City on October 13, 1992; Resolution No. R-472-93 adopted by the City on October 26, 1993; Resolution No. R-95-95 adopted by the City on February 28, 1995; Resolution No. R-422-98 adopted by the City on October 20, 1998; Resolution No. R-64-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001; Resolution No. R-480-01 adopted by the City on October 30, 2001; Resolution No. R-59-04 adopted by the City on March 2, 2004; Resolution No. R-261-05 adopted by the City on July 5, 2005; Resolution No. R-78-06 adopted by the City on February 28, 2006; Resolution No. R-251-08 adopted by the City on July 29, 2008; Resolution No. R-332-2010 adopted by the City on November 2, 2010; Resolution No. R-335-2011 adopted by the City on December 13, 2011; Resolution No. R-289-2012 adopted by the City on October 16, 2012; Resolution No. R-321-2012 adopted by the City on November 13, 2012; Resolution No. R-213-2014 adopted by the City on June 24, 2014; Resolution No. R-81-2015 adopted by the City on March 3, 2015; Resolution No. R-129-2015 adopted by the City on March 31, 2015; Resolution No. R-314-2016 adopted by the City on June 21, 2016; Resolution No. R-52-2017 adopted by the City on January 31, 2017; Resolution No. R-228-2017 adopted by the City on July 18, 2017; Resolution No. R-230-2018 adopted by the City on June 20, 2018; Resolution No. R-101-2020 adopted by the City on March 24, 2020; and Resolution No. R-79-2021 adopted by the City on March 9, 2021. Resolution Nos. 1644, 2171, 3491, R-317-90, R-469-92, R-472-93, R-95-95, R-422-98, R-64-01, R-148-01, R-480-01, R-59-04, R-261-05, R-78-06, R-251-08, R-332-2010, R-335-2011, R-289-2012, R-321-2012, R-213-2014, R-81-2015, R-129-2015, R-314-2016, R-52-2017, R-228-2017, R-230-2018, R-101-2020 and R-79-2021 are hereinafter sometimes collectively referred to as the "Electric Bond Resolutions." All Electric System Revenue Bonds issued pursuant to such Electric Bond Resolutions are hereinafter referred to as the "Electric System Bonds."

The Gas Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. R-25-88 adopted by the City on February 9, 1988, as amended and supplemented by Resolution No. R-59-88 adopted by the City on March 22, 1988; Resolution No. R-227-91 adopted by the City on June 25, 1991; Resolution No. R-5-93 adopted by the City on January 5, 1993; amending Resolution No. R-471-92 adopted by the City on October 13, 1992; Resolution No. R-475-93 adopted by the City on October 26, 1993;

Resolution No. R-22-97 adopted by the City on January 14, 1997; Resolution No. R-421-98 adopted by the City on October 20, 1998; Resolution No. R-66-01 adopted by the City on February 20, 2001; Resolution No. R-150-01 adopted by the City on March 20, 2001; Resolution No. R-479-01 adopted by the City on October 30, 2001; Resolution No. R-58-04 adopted by the City on March 2, 2004; Resolution No. R-262-05 adopted by the City on July 5, 2005; Resolution No. R-79-06 adopted by the City on February 28, 2006; Resolution No. R-345-07 adopted by the City on August 28, 2007; Resolution No. R-132-210 duly adopted by the City on May 4, 2010; Resolution No. R-333-2010 adopted by the City on November 2, 2010; Resolution No. R-336-2011 adopted by the City on December 13, 2011; Resolution No. R-290-2012 adopted by the City on October 16, 2012; Resolution No. R-322-2012 adopted by the City on November 13, 2012; Resolution No. R-242-2013 adopted by the City on July 23, 2013; Resolution No. R-82-2015 adopted by the City on March 3, 2015; Resolution No. R-315-2016 adopted by the City on June 21, 2016; Resolution No. R-51-2017 adopted by the City on January 31, 2017; Resolution No. R-227-2017 adopted by the City on July 18, 2017; Resolution No. R-229-2018 adopted by the City June 20, 2018; Resolution No. R-100-2020 adopted by the City on March 24, 2020; and Resolution No. R-80-2021 adopted by the City on March 9, 2021. Resolution Nos. R-25-88, R-59-88, R-227-91, R-5-93, R-471-92, R-475-93, R-22-97, R-421-98, R-66-01, R-150-01, R-479-01, R-58-04, R-262-05, R-79-06, R-345-07, R-132-210, R-333-2010, R-336-2011, R-290-2012, R-322-2012, R-242-2013, R-82-2015, R-315-2016, R-51-2017, R-227-2017, R-229-2018, R-100-2020 and R-80-2021 are hereinafter sometimes collectively referred to as the “Gas Bond Resolutions”. All Gas System Revenue Bonds issued pursuant to such Gas Bond Resolutions are hereinafter referred to as the “Gas System Bonds.”

The Water Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes, and pursuant to Resolution No. 2075 duly adopted by the City Council of the City on April 20, 1954, as amended and supplemented by Resolution No. 3633 duly adopted by the City on March 19, 1968; Resolution No. R-26-88 duly adopted by the City on February 9, 1988; Resolution No. R-318-90 duly adopted by the City on October 30, 1990; Resolution No. R-470-92 duly adopted by the City on October 13, 1992; Resolution No. R-474-93 duly adopted by the City on October 26, 1993; Resolution No. R-8-98 duly adopted by the City on January 27, 1998; Resolution No. R-65-01 duly adopted by the City on February 20, 2001; Resolution No. R-151-01 duly adopted by the City on March 20, 2001; Resolution No. R-482-01 duly adopted by the City on October 30, 2001; Resolution No. R-57-04 duly adopted by the City on March 2, 2004; Resolution No. R-263-05 duly adopted by the City on July 5, 2005; Resolution No. R-346-07 duly adopted by the City on August 28, 2007; Resolution No. R-211-09 duly adopted by the City on June 30, 2009; Resolution No. R-133-10 duly adopted by the City on May 4, 2010; Resolution No. R-285-2011 duly adopted by the City on October 4, 2011; Resolution No. R-337-2011 adopted by the City on December 13, 2011; Resolution No. R-323-2012 adopted by the City on November 13, 2012; Resolution No. R-243-2013 adopted by the City on July 23, 2013; Resolution No. R-214-2014 adopted by the City on June 24, 2014; Resolution No. R-83-2015 adopted by the City on March 3, 2015; Resolution No. R-127-2015 adopted by the City on March 31, 2015; Resolution No. R-316-2016 adopted by the City on June 21, 2016; Resolution No. R-318-2016 adopted by the City on June 21, 2016; Resolution No. R-50-2017 adopted by the City on January 31, 2017; Resolution No. R-226-2017 adopted by the City on July 18, 2017; Resolution No. R-228-2018 adopted by the City on June 20, 2018; Resolution No. R-207-2019 adopted by the City on June 4, 2019; Resolution No. R-98-2020 adopted by the City on March 24, 2020; Resolution No. R-262-2020 adopted by the City on September 8, 2020; and Resolution No. R-81-2021 adopted by the City on March 9, 2021. Resolution Nos. 2075, 3633, R-26-88, R-318-90, R-470-92, R-474-93, R-8-98, R-65-01, R-151-01, R-482-01, R-57-04, R-263-05, R-346-07, R-211-09, R-133-10, R-285-2011, R-337-2011, R-323-2012, R-243-2013, R-214-2014, R-83-2015, R-127-2015, R-316-2016, R-318-2016, R-50-2017, R-226-2017, R-228-2018, R-207-2019, R-98-2020, R-262-2020 and R-81-2021 are hereinafter sometimes collectively referred to as the “Water Bond Resolutions.” All Water System Revenue Bonds issued pursuant to such Water Bond Resolutions are hereinafter referred to as the “Water System Bonds.”

The Wastewater Bonds are being issued pursuant to the Act, the City Charter, other applicable statutes for the purpose of providing funds to pay for the construction of improvements to and extending of the City’s Wastewater System, and pursuant to Resolution No. R-129-90 adopted by the City on May 15, 1990, as amended and supplemented by Resolution No. R-130-90 adopted May 15, 1990, Resolution No. R-473-93 adopted by the City on October 26, 1992, Resolution No. R-5-98 adopted by the City on January 27, 1998, and Resolution No. R-67-01 adopted by the City on February 20, 2001; Resolution No. R-148-01 adopted by the City on March 20, 2001;

Resolution No. R-481-01 adopted by the City on October 30, 2001; Resolution No. R-56-04 adopted by the City on March 2, 2004; Resolution No. R-264-05 adopted by the City on July 5, 2005; Resolution No. R-347-07 adopted by the City on August 28, 2007; Resolution No. R-252-08 adopted by the City on July 29, 2008; Resolution No. R-11-S adopted by the City on December 15, 2009; Resolution No. R-134-2010 adopted by the City on May 4, 2010; Resolution No. R-334-2010 adopted by the City on November 2, 2010; Resolution No. R-338-2011 adopted by the City on December 13, 2011; Resolution No. R-291-2012 adopted by the City on October 16, 2012; Resolution No. R-324-2012 adopted by the City on November 13, 2012; Resolution No. R-212-2014 adopted by the City on June 24, 2014; Resolution No. R-84-2015 adopted by the City on March 3, 2015; Resolution No. R-128-2015 adopted by the City on March 31, 2015; Resolution No. R-317-2016 adopted by the City on June 21, 2016; Resolution No. R-49-2017 adopted by the City on January 31, 2017; Resolution No. R-225-2017 adopted by the City on July 18, 2017; Resolution No. R-233-2018 adopted by the City on June 20, 2018; Resolution No. R-208-2019 adopted by the City on June 4, 2019; Resolution No. R-99-2020 adopted by the City on March 24, 2020; Resolution No. R-261-2020 adopted by the City on September 8, 2020; and Resolution No. R-82-2021 adopted by the City on March 9, 2021. Resolution Nos. R-129-90, R-130-90, R-473-93, R-5-98, R-67-01, R-148-01, R-481-01, R-56-04, R-264-05, R-347-07, R-252-08, R-11-S, R-134-2010, R-334-2010, R-338-2011, R-291-2012, R-324-2012, R-212-2014, R-84-2015, R-128-2015, R-317-2016, R-49-2017, R-225-2017, R-233-2018, R-208-2019, R-99-2020, R-261-2020 and R-82-2021 are hereinafter sometimes collectively referred to as the "Wastewater Bond Resolutions." All Wastewater System Revenue Bonds issued pursuant to such Wastewater Bond Resolutions are hereinafter referred to as the "Wastewater System Bonds."

In 1939 the City Charter was amended to create the Knoxville Electric Power and Water Board which name was changed in 1947 to the Knoxville Utilities Board ("KUB"). KUB provides electric, gas, water and wastewater utility services through separate City owned electric, gas, water, and wastewater systems (collectively, the "Systems"), and is governed by a seven-member Board of Commissioners (the "Board").

The Bonds are being issued to provide funds to refinance certain outstanding debt of the Electric System, the Gas System, the Water System and the Wastewater System (collectively, the "Systems") as outlined below, and the payment of legal, fiscal, administrative and engineering costs incident thereto and incident to the issuance and sale of the Bonds.

PLAN OF REFUNDING

The Electric Bonds are being issued to refinance the outstanding (1) Electric System Revenue Refunding Bonds, Series AA-2012, dated April 20, 2012, maturing July 1, 2022 through July 1, 2029 in the outstanding principal amount of $16,510,000 (the "Series AA-2012 Bonds"); (2) Electric System Revenue Bonds, Series BB-2012, dated December 18, 2012, maturing July 1, 2022 through July 1, 2042 in the outstanding principal amount of $28,750,000 (the "Series BB-2012 Bonds"); (3) Electric System Revenue Refunding Bonds, Series CC-2013, dated March 15, 2013, maturing July 1, 2022 through July 1, 2031 in the outstanding principal amount of $6,530,000 (the "Series CC-2013 Bonds") and (4) Electric System Revenue Bonds, Series DD-2014, dated September 18, 2014, maturing July 1, 2022 through July 1, 2044 in the outstanding principal amount of $34,625,000 (the "Series DD-2014 Bonds") (collectively, the "Refunded Electric Bonds"). The Refunded Electric Bonds will be escrowed until the July 1, 2021 redemption date at par plus accrued interest.

The Gas Bonds are being issued to refinance the outstanding (1) Gas System Revenue Refunding Bonds, Series Q-2012, dated April 20, 2012, maturing March 1, 2022 through March 1, 2029 in the outstanding principal amount of $11,655,000 (the "Series Q-2012 Bonds"); (2) Gas System Revenue Bonds, Series R-2012, dated December 18, 2012, maturing March 1, 2022 through March 1, 2033 in the outstanding principal amount of $7,225,000 (the "Series R-2012 Bonds"); (3) Gas System Revenue Refunding Bonds, Series S-2013, dated March 15, 2013, maturing March 1, 2022 through March 1, 2031 in the outstanding principal amount of $8,310,000 (the "Series S-2013 Bonds") and (4) Gas System Revenue Bonds, Series T-2013, dated October 1, 2013, maturing March 1, 2022 through March 1, 2035 in the outstanding principal amount of $21,900,000 (the "Series T-2013 Bonds") (collectively, the "Refunded Gas Bonds"). The Refunded Gas Bonds will be redeemed on April 19, 2021 at par plus accrued interest.

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The Water Bonds are being issued to refinance the outstanding (1) Water System Revenue Refunding Bonds, Series X-2012, dated April 20, 2012, maturing March 1, 2022 through March 1, 2029 in the outstanding principal amount of $5,835,000 (the "Series X-2012 Bonds"); (2) Water System Revenue Refunding Bonds, Series Y-2013, dated March 15, 2013, maturing March 1, 2022 through March 1, 2030 in the outstanding principal amount of $7,380,000 (the "Series Y-2013 Bonds"); (3) Water System Revenue Bonds, Series Z-2013, dated October 1, 2013, maturing March 1, 2022 through March 1, 2044 in the outstanding principal amount of $21,025,000 (the "Series Z-2013 Bonds") and (4) Water System Revenue Bonds, Series AA-2014, dated September 18, 2014, maturing March 1, 2022 through March 1, 2044 in the outstanding principal amount of $6,925,000 (the "Series AA-2014 Bonds") (collectively, the "Refunded Water Bonds"). The Refunded Water Bonds will be redeemed on April 19, 2021 at par plus accrued interest.

The Wastewater Bonds are being issued to refinance the outstanding (1) Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds), dated December 08, 2010, maturing April 1, 2022 through April 1, 2035 in the outstanding principal amount of $36,550,000 (the "Series 2010C Bonds"); (2) Wastewater System Revenue Refunding Bonds, Series 2012A, dated April 20, 2012, maturing April 1, 2022 through April 1, 2029 in the outstanding principal amount of $9,765,000 (the "Series 2012A Bonds"); (3) Wastewater System Revenue Bonds, Series 2012B, dated December 18, 2012, maturing April 1, 2022 through April 1, 2047 in the outstanding principal amount of $57,075,000 (the "Series 2012B Bonds"); (4) Wastewater System Revenue Refunding Bonds, Series 2013A, dated March 15, 2013, maturing April 1, 2022 through April 1, 2037 in the outstanding principal amount of $108,405,000 (the "Series 2013A Bonds") and (5) Wastewater System Revenue Bonds, Series 2014A, dated September 18, 2014, maturing April 1, 2022 through April 1, 2049 in the outstanding principal amount of $26,775,000 (the "Series 2014A Bonds") (collectively, the "Refunded Wastewater Bonds"). The Refunded Wastewater Bonds will be redeemed on April 19, 2021 at par plus accrued interest.

As required by Title 9, Chapter 21, Part 9 of *Tennessee Code Annotated* as supplemented and revised, a plan of refunding (the "Plan") for the Refunded Electric Bonds, the Refunded Gas Bonds, the Refunded Water Bonds and the Refunded Wastewater Bonds and each Plan was submitted to the Director of the Division of Local Government Finance for review and that office's report on the Plan was submitted to the City and KUB. For more information, see the section entitled "BASIC DOCUMENTATION" for additional information.

DESCRIPTION OF THE BONDS

General Terms

The Bonds will be dated April 19, 2021 and will be issued in book-entry-only form, without coupons, in denominations of $5,000 each and integral multiples thereof.

The Electric Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of January and July of each year, commencing on January 1, 2022.

The Gas Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of March and September of each year, commencing on September 1, 2021.

The Water Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of March and September of each year, commencing on September 1, 2021.

The Wastewater Bonds will bear interest from their dated date at the rate or rates per annum set forth on the inside cover page hereof, such interest (computed on the basis of a 360-day year of twelve 30-day months) being payable semi-annually on the first days of April and October of each year, commencing on October 1, 2021.

The Bonds will be initially registered only in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which will act as securities depository for the Bonds. Regions Bank, Nashville, Tennessee (the "Registration Agent") will make all interest payments with respect to the Bonds on each interest payment date directly to Cede & Co., as nominee of DTC, the registered owner as shown on the Bond registration records maintained by the Registration Agent as of the close of business on the fifteenth day of the month next preceding the interest payment date (the "Regular Record Date") by check or draft mailed to such owner at its address shown on said Bond registration records, without, except for final payment, the presentation or surrender of such registered Bonds, and all such payments shall discharge the obligations of KUB in respect of such Bonds to the extent of the payments so made. Payment of principal of the Bonds shall be made upon presentation and surrender of such Bonds to the Registration Agent as the same shall become due and payable.

Any interest on any Bond which is payable but is not punctually paid or duly provided for on any interest payment date (hereinafter "Defaulted Interest") shall forthwith cease to be payable to the registered owner on the relevant Regular Record Date; and, in lieu thereof, such Defaulted Interest shall be paid by KUB to the persons in whose names the Bonds are registered at the close of business on a date (the "Special Record Date") for the payment of such Defaulted Interest, which shall be fixed in the following manner: KUB shall notify the Registration Agent in writing of the amount of Defaulted Interest proposed to be paid on each Bond and the date of the proposed payment, and at the same time KUB shall deposit with the Registration Agent an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Registration Agent for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the persons entitled to such Defaulted Interest. Thereupon, not less than ten (10) days after the receipt by the Registration Agent of the notice of the proposed payment, the Registration Agent shall fix a Special Record Date for the payment of such Defaulted Interest which date shall be not more than fifteen (15) nor less than ten (10) days prior to the date of the proposed payment to the registered owners. The Registration Agent shall promptly notify KUB of such Special Record Date and, in the name and at the expense of KUB, not less than ten (10) days prior to such Special Record Date, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first class postage prepaid, to each registered owner at the address thereof as it appears in the Bond registration records maintained by the Registration Agent as of the date of such notice. Nothing contained in the Electric Bond Resolutions, Gas Bond Resolutions, Water Bond Resolutions or the Wastewater Bond Resolutions (the "Resolutions") or in the Bonds shall impair any statutory or other rights in law or in equity of any registered owner arising as a result of the failure of KUB to punctually pay or duly provide for the payment of principal of, premium, if any, and interest on the Bonds when due.

So long as Cede & Co. is the Registered Owner of the Bonds, as nominee of DTC, references herein to the Bondholders, Holders or Registered Owners of the Bonds shall mean Cede & Co. and shall not mean the Beneficial Owners of the Bonds. See "The Book-Entry-Only System."

Optional Redemption

The Electric Bonds maturing on and after July 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after July 1, 2032 at the redemption price of par plus accrued interest as provided herein. The Gas Bonds maturing on and after March 1, 2029 will be subject to redemption prior to maturity at the option of the Board on or after March 1, 2028 at the redemption price of par plus accrued interest as provided herein. The Water Bonds maturing on and after March 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after March 1, 2032 at the redemption price of par plus accrued interest as provided herein. The Wastewater Bonds maturing on and after April 1, 2033 will be subject to redemption prior to maturity at the option of the Board on or after April 1, 2032 at the redemption price of par plus accrued interest as provided herein.

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Selection Of Bonds For Redemption And Notice Of Redemption

If less than all the Bonds of a series shall be called for redemption, the maturities to be redeemed shall be designated by the Board, in its discretion. If less than all the principal amount of the Bonds of a maturity shall be called for redemption, the interests within the maturity to be redeemed shall be selected as follows:

(i) if the Bonds are being held under a Book-Entry-Only System by DTC, or a successor Depository, the amount of the interest of each DTC Participant in the Bonds to be redeemed shall be determined by DTC, or such successor Depository, by lot or such other manner as DTC, or such successor Depository, shall determine; or

(ii) if the Bonds are not being held under a Book-Entry-Only System by DTC, or a successor Depository, the Bonds within the maturity to be redeemed shall be selected by the Registration Agent by lot or such other random manner as the Registration Agent in its discretion shall determine.

Notice of call for redemption shall be given by the Registration Agent not less than twenty (20) nor more than sixty (60) days prior to the date fixed for redemption by sending an appropriate notice to the registered owners of the Bonds to be redeemed by first-class mail, postage prepaid, at the addresses shown on the Bond registration records of the Registration Agent as of the date of the notice; but neither failure to mail such notice nor any defect in any such notice so mailed shall affect the sufficiency of the proceedings for the redemption of any of the Bonds for which proper notice was given. The notice may state that it is conditioned upon the deposit of moneys in an amount equal to the amount necessary to effect the redemption with the Registration Agent no later than the redemption date ("Conditional Redemption"). As long as DTC, or a successor Depository, is the registered owner of the Bonds, all redemption notices shall be mailed by the Registration Agent to DTC, or such successor Depository, as the registered owner of the Bonds, as and when above provided, and neither the District nor the Registration Agent shall be responsible for mailing notices of redemption to DTC Participants or Beneficial Owners. Failure of DTC, or any successor Depository, to provide notice to any DTC Participant will not affect the validity of such redemption. From and after any redemption date, all Bonds called for redemption shall cease to bear interest if funds are available at the office of the Registration Agent for the payment thereof and if notice has been duly provided as set forth in the Resolution. In the case of a Conditional Redemption, the failure of the Board to make funds available in part or in whole on or before the redemption date shall not constitute an event of default, and the Registration Agent shall give immediate notice to the Depository or the affected Bondholders that the redemption did not occur and that the Bonds called for redemption and not so paid remain outstanding.

ESTIMATED SOURCES AND USES OF FUNDS

The tables on the following pages set forth the estimated sources and uses of funds in connection with the issuance of the Bonds.

The Electric Bonds

Sources:

Principal amount of the Electric Bonds	$70,180,000.00
Net Premium	$16,772,021.00
Contribution for July 1 Interest	$ 1,423,990.63
Total Sources	$88,376,011.63

Uses:

Underwriter's Discount	$ 279,715.62
Cost of Issuance	$ 259,062.13
Deposit to the Escrow Refunding Fund	$87,837,233.88
Total Uses:	$88,376,011.63

The Gas Bonds

Sources:

Principal amount of the Gas Bonds	$41,920,000.00
Net Premium	$ 7,207,533.25
Contributions for Accrued Interest	$ 240,087.16
Total Sources	$49,367,620.41

Uses:

Underwriter's Discount	$ 61,553.23
Cost of Issuance	$ 216,067.18
Deposit to the Current Refunding Fund	$49,090,000.00
Total Uses:	$49,367,620.41

The Water Bonds

Sources:

Principal amount of the Water Bonds	$33,180,000.00
Net Premium	$ 8,063,283.10
Contributions for Accrued Interest	$ 212,503.33
Total Sources	$41,455,786.43

Uses:

Underwriter's Discount	$ 91,748.11
Cost of Issuance	$ 199,038.32
Deposit to the Construction Fund	$41,165,000.00
Total Uses:	$41,455,786.43

The Wastewater Bonds

Sources:

Principal amount of the Wastewater Bonds	$190,815,000.00
Net Premium	$ 48,114,585.40
Contribution for Accrued Interest	$ 435,739,19
Total Sources	$239,365,324.59

Uses:

Underwriter's Discount	$ 473,221.20
Cost of Issuance	$ 322,103.39
Deposit to the Construction Fund	$238,570,000.00
Total Uses:	$239,365,324.59

PAYMENT OF BONDS

The Bonds will bear interest from their date or from the most recent interest payment date to which interest has been paid or duly provided for, on the dates provided herein, such interest being computed upon the basis of a 360-day year of twelve 30-day months. Interest on each Bond shall be paid by check or draft of the Registration Agent to the person in whose name such Bond is registered at the close of business on the 15th day of the month next preceding the interest payment date. The principal of and premium, if any, on the Bonds shall be payable in lawful money of the United States of America at the principal corporate trust office of the Registration Agent.

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SECURITY FOR THE BONDS

SECURITY FOR THE ELECTRIC SYSTEM REVENUE REFUNDING BONDS, SERIES LL-2021

Pledge Under the Bond Resolutions.

The Electric Bonds constitute and, when issued, will be part of an issue of bonds known as "Electric System Revenue Refunding Bonds" under the Electric Bond Resolutions. All Electric Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Electric System and are on a parity and equality of lien with the City's outstanding: (i) Electric System Revenue Refunding Bonds, Series AA-2012, dated April 20, 2012, to the extent, if any, not refunded with the proceeds of the Electric Bonds, (ii) Electric System Revenue Bonds, Series BB-2012, dated December 18, 2012, to the extent, if any, not refunded with the proceeds of the Electric Bonds, (iii) Electric System Revenue Refunding Bonds, Series CC-2013, dated March 15, 2013, to the extent, if any, not refunded with the proceeds of the Electric Bonds, (iv) Electric System Revenue Bonds, Series DD-2014, dated September 18, 2014, to the extent, if any, not refunded with the proceeds of the Electric Bonds, (v) Electric System Revenue Refunding Bonds, Series EE-2015, dated May 1, 2015, (vi) Electric System Revenue Bonds, Series FF-2015, dated May 20, 2015, (vii) Electric System Revenue Bonds, Series GG-2016, dated August 5, 2016, (viii) Electric System Revenue Refunding Bonds, Series HH-2017, dated April 7, 2017, (ix) Electric System Revenue Bonds, Series II-2017, dated September 15, 2017, (x) Electric System Revenue Bonds, Series JJ-2018, dated September 14, 2018, and (xi) Electric System Revenue Refunding Bonds, Series KK-2020, dated May 22, 2020 (collectively, the "Outstanding Electric System Bonds") issued pursuant to the Electric Bond Resolutions in addition to the Electric Bonds. The Electric Bonds, the Outstanding Electric Bonds and any future parity bonds are sometimes hereinafter referred to as the "Electric System Bonds".

Neither the Electric Bonds nor any of the Outstanding Electric System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Electric Bonds or any other Outstanding Electric System Bonds of the City.

Rate Covenant

The Electric Bond Resolutions provide that the Board will fix rates and collect charges for electric energy and the services, facilities and commodities furnished by the Electric System to provide revenues sufficient to pay expenses and obligations related to the Electric System and to meet a 1.20 debt service coverage ratio. See APPENDIX G "Summary of Certain Provisions of the Electric Bond Resolutions – Rate Covenant" for additional information.

Additional Electric Bonds

The City and the Board have covenanted in the Electric Bond Resolutions that no indebtedness will be incurred payable from the revenues of the Electric System having priority over the Electric System Bonds, including the Electric Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Electric Bond Resolutions provided that all payments required to be made to the Electric Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Electric Bond Resolution with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Electric System and the money on deposit in the Electric Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Electric Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Electric System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Electric System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Electric Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Electric Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Electric System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Electric System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX G "Summary of Certain Provisions of the Electric Bond Resolutions – Additional Indebtedness" for additional information.**

SECURITY FOR THE GAS SYSTEM REVENUE REFUNDING BONDS, SERIES AA-2021

Pledge Under the Bond Resolutions.

The Gas Bonds constitute and, when issued, will be part of an issue of bonds known as "Gas System Revenue Refunding Bonds" under the Gas System Bond Resolutions. The Gas Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Gas System and are on a parity and equality of lien with the City's outstanding: (i) Gas System Revenue Bonds, Series U-2015, dated May 1, 2015; (ii) Gas System Revenue Bonds, Series V-2016, dated August 5, 2016; (iii) Gas System Revenue Refunding Bonds, Series W-2017, dated April 7, 2017; (iv) Gas System Revenue Bonds, Series X-2017, dated September 15, 2017; (v) Gas System Revenue Bonds, Series Y-2018, dated September 14, 2018; and (vi) Gas System Revenue Refunding Bonds, Series Z-2020, dated May 22, 2020 (collectively, the "Outstanding Gas System Bonds"). The Gas Bonds, the Outstanding Gas System Bonds and any future parity bonds are sometimes hereinafter referred to as the "Gas System Bonds".

Neither the Gas Bonds nor any of the Outstanding Gas System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Gas Bonds or any other Outstanding Gas System Bonds of the City.

Rate Covenant

The Gas Bond Resolutions provide that the Board will fix rates and collect charges for gas and the services, facilities and commodities furnished by the Gas System to provide revenues sufficient to pay expenses and obligations related to the Gas System and to meet a 1.20 debt service coverage ratio. See APPENDIX H "Summary of Certain Provisions of the Gas Bond Resolutions – Rate Covenant" for additional information.

Additional Gas Bonds

The City and the Board have covenanted in the Gas Bond Resolutions that it will incur no indebtedness payable from the revenues of the Gas System having priority over the Gas System Bonds, including the Gas Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Gas Bond Resolutions provided that all payments required to be made to the Gas Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Gas Bond Resolution with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Gas System and the money on deposit in the Gas Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Gas Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Gas System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Gas System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Gas Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Gas Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Gas System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Gas System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX H "Summary of Certain Provisions of the Gas Bond Resolutions – Additional Indebtedness" for additional information.**

SECURITY FOR THE WATER SYSTEM REVENUE BONDS, SERIES LL-2021

Pledge Under the Water Bond Resolutions

The Water Bonds constitute and, when issued, will be part of an issue known as "Water System Revenue Bonds" under the Water Bond Resolutions. All Water Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Water System of the City and are on a parity and equality of lien with the City's outstanding: (i) Water System Revenue Refunding Bonds, Series BB-2015, dated May 1, 2015; (ii) Water System Revenue Bonds, Series CC-2015, dated May 20, 2015; (iii) Water System Revenue Bonds, Series DD-2016, dated August 5, 2016; (iv) Water System Revenue Refunding Bonds, Series EE-2016, dated August 5, 2016; (v) Water System Revenue Refunding Bonds, Series FF-2017, dated April 7, 2017; (vi) Water System Revenue Bonds, Series GG-2017, dated September 15, 2017; (vii) Water System Revenue Bonds, Series HH-2018, dated September 14, 2018; (viii) Water System Revenue Bonds, Series II-2019, dated August 20, 2019; (ix) Water System Revenue Refunding Bonds, Series JJ-2020, dated May 22, 2020; and (x) Water System Revenue Bonds, Series KK-2020, dated October 30, 2020 (collectively, the "Outstanding Water System Bonds"). The Water Bonds, the Outstanding Water System Bonds and any future parity Water Bonds are sometimes hereinafter referred to as the "Water System Bonds".

Neither the Water Bonds nor any of the Outstanding Water System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Water Bonds or any Outstanding Water System Bonds of the City.

Rate Covenant

The Water Bond Resolutions provide that the Board will fix rates and collect charges for water and the services, facilities and commodities furnished by the Water System to provide revenues sufficient to pay expenses and obligations related to the Water System and to meet a 1.20 debt service coverage ratio. See APPENDIX I "Summary of Certain Provisions of the Water Bond Resolutions – Rate Covenant" for additional information.

Additional Water Bonds

The City, acting through the Board, has covenanted in the Water Bond Resolutions that it will incur no indebtedness payable from the revenues of the Water System having priority over the Water System Bonds, including the Water Bonds.

The City, acting by and through KUB, or KUB may issue additional Water Bonds, notes or other obligations pursuant to the Water Bond Resolutions, provided that all payments required to be made to the Water Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional Water Bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness with respect to the lien and claim of such additional Water Bonds, notes or other obligations to the net revenues of the Water System and the money on deposit in the Water Debt Service Fund for the purpose of (i) refunding any outstanding parity indebtedness, subordinate Water Bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Water Bond Resolutions) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Water System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien Water Bonds, subordinated Water Bonds, notes or other obligations or extending, improving or replacing the Water System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Water Bond Resolutions) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Water Bond Resolutions) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Water System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien Water Bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Water System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX I "Summary of Certain Provisions of the Water Bond Resolution – Additional Indebtedness" for additional information.**

SECURITY FOR THE WASTEWATER SYSTEM REVENUE BONDS, SERIES 2021A

Pledge Under the Bond Resolution

The Wastewater Bonds constitute and, when issued, will be part of an issue known as "Wastewater System Revenue Bonds" under the Wastewater System Bond Resolutions. All Wastewater Bonds are limited obligations of the City payable solely and ratably from the net revenues of the Wastewater System of the City and are on a parity and equality of lien with the City's outstanding: (i) Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds), dated December 8, 2010, to the extent not refunded by the Wastewater Bonds; (ii) (ii) Wastewater System Revenue Refunding Bonds, Series 2015A, dated May 1, 2015; (iii) Wastewater System Revenue Bonds, Series 2015B, dated May 20, 2015; (iv) Wastewater System Revenue Bonds, Series 2016, dated August 5, 2016; (v) Wastewater System Revenue Refunding Bonds, Series 2017A, dated April 7, 2017; (vi) Wastewater System Revenue Bonds, Series 2017B, dated September 15, 2017; (xi) Wastewater System Revenue Bonds, Series 2018, dated September 14, 2018; (vii) Wastewater System Revenue Bonds, Series 2019, dated

August 20, 2019; (viii) Wastewater System Revenue Refunding Bonds, Series 2020A, dated May 22, 2020; and (ix) Wastewater System Revenue Bonds, Series 2020B, dated October 30, 2020 (collectively, the "Outstanding Wastewater System Bonds"). The Wastewater Bonds, the Outstanding Wastewater System Bonds and any future parity bonds are sometimes hereinafter referred to as the "Wastewater System Bonds".

Neither the Wastewater Bonds nor any of the Outstanding Wastewater System Bonds are general obligations of the City, and no owner thereof shall have the right to compel the City to exercise its taxing power to pay principal of or premium or interest on the Wastewater Bonds or any other Outstanding Wastewater System Bonds of the City.

Rate Covenant

The Wastewater Bond Resolutions provide that the Board will fix rates and collect charges for the treatment of wastewater and the services, facilities and commodities furnished by the Wastewater System to provide revenues sufficient to pay expenses and obligations related to the Wastewater System and to meet a 1.20 debt service coverage ratio. See APPENDIX J "Summary of Certain Provisions of the Wastewater Bond Resolutions – Rate Covenant" for additional information.

Additional Wastewater Bonds

The City and the Board have covenanted in the Wastewater Bond Resolutions that it will incur no indebtedness payable from the revenues of the Wastewater System having priority over the Wastewater System Bonds, including the Wastewater Bonds.

The City, acting by and through KUB, or KUB may issue additional bonds, notes or other obligations pursuant to the Wastewater Bond Resolutions provided that all payments required to be made to the Wastewater Debt Service Fund and into any reserve fund which may be required under resolutions authorizing parity indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, on a parity and equality of lien with the outstanding parity indebtedness under the Wastewater Bond Resolution, with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the Wastewater System and the money on deposit in the Wastewater Debt Service Fund (i) for the purpose of refunding any outstanding parity indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional parity indebtedness, the Aggregate Debt Service (as defined in the Wastewater Resolution) on all outstanding parity indebtedness, including the additional parity indebtedness to be issued, in any fiscal year shall not increase by more than ten percent (10%) after the issuance of such additional parity indebtedness; (ii) for the purpose of financing the completion or equipping of improvements to the Wastewater System for which outstanding parity indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the outstanding parity indebtedness that financed such improvements; and (iii) for the purposes of refunding any outstanding parity indebtedness or any prior lien bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the Wastewater System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues (as defined in the Wastewater Resolution) for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional parity indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service (as defined in the Wastewater Resolution) on outstanding parity indebtedness plus the Debt Service on the additional parity indebtedness proposed to be issued or (B) the estimated Net Revenues of the Wastewater System for each of the three fiscal years next succeeding the issuance of the additional parity indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service, any other outstanding parity indebtedness and all outstanding prior lien bonds plus the Debt Service on the additional parity indebtedness proposed to be issued; provided, however, that if the additional parity indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the Wastewater System, then the estimate of Net Revenues may be for the three fiscal years ensuing after the time that such improvement, extension or replacement is expected to be placed in service. **See APPENDIX J "Summary of Certain Provisions of the Wastewater Bond Resolutions – Additional Indebtedness" for additional information.**

BASIC DOCUMENTATION

BOOK-ENTRY-ONLY SYSTEM

The Bonds, when issued, will be registered in the name of Cede & Co., DTC's partnership nominee. When the Bonds are issued, ownership interests will be available to purchasers only through a book-entry-only system maintained by DTC (the **"Book-Entry-Only System"**). One or more fully-registered bond certificates will be issued for each maturity, in the entire aggregate principal amount of the Bonds and will be deposited with DTC.

DTC and its Participants. DTC is a limited-purpose trust company organized under the New York Bank Law, a **"banking organization"** within the meaning of the New York Banking Law, a member of the Federal Reserve System, a **"clearing corporation"** within the meaning of the New York Uniform Commercial Code, and a **"clearing agency"** registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for securities that its participants (the **"Direct Participants"**) deposit with DTC. DTC also facilitates the settlement among Direct Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry-only changes in DTC Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (**"DTCC"**). DTCC, in turn, is owned by a number of its Direct Participants and Members of the National Securities Clearing Corporation, Government Securities Clearing Corporation, MBS Clearing Corporation, and Emerging Markets Clearing Corporation, (the **"NSCC"**, **"GSCC"**, **"MBSCC"**, and **"EMCC"**, also subsidiaries of DTCC), as well as by the New York Stock Exchange, Inc. (the **"NYSE"**), the American Stock Exchange LLC and the National Association of Securities Dealers, Inc. Access to the DTC system is also available to others, such as both U.S. and non-U.S. securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct DTC Participant, either directly or indirectly (the **"Indirect Participants"** and, together with the Direct Participants, the **"Participants"**). The rules applicable to DTC and its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchase of Ownership Interests. Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond (a **"Beneficial Owner"**) is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through whom such Beneficial Owners entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except as specifically provided in the Bonds in the event that use of the Book-Entry-Only System is discontinued.

Payments of Principal and Interest. Principal and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts, upon DTC's receipt of funds and corresponding detail information from the Registration Agent on the payable date in accordance with their respective holdings shown on DTC's records, unless DTC has reason to believe it will not receive payment on such date. Payments by Direct and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with municipal securities held for the accounts of customers in bearer form or registered in **"street name"**, and will be the responsibility of such Participant and not of DTC, the City or the Registration Agent subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, principal, tender price and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Registration Agent, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners shall be the responsibility of Direct and Indirect Participants.

Notices. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the bond documents. Beneficial Owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners, or in the alternative, Beneficial Owners may wish to provide their names and addresses to the Registration Agent and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as practicable after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

NONE OF THE CITY, KUB, THE MUNICIPAL ADVISOR, THE UNDERWRITER OR THE REGISTRATION AGENT WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENT TO, OR THE PROVIDING OF NOTICE FOR, SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES.

Transfers of Bonds. To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of the Bonds with DTC and their registration in the name of Cede & Co. or such other nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

None of the City, KUB, the Municipal Advisor, the Registration Agent or the Underwriter will have any responsibility or obligation, legal or otherwise, to any party other than to the registered owners of any Bond on the registration books of the Registration Agent.

NO ASSURANCE REGARDING DTC PRACTICES

The foregoing information in this section concerning DTC and DTC's Book-Entry-Only System has been obtained from sources that the City acting by and through KUB, believes to be reliable, but the City, KUB, the Registration Agent and the Underwriter do not take any responsibility for the accuracy thereof.

So long as Cede & Co. is the registered owner of the Bonds as nominee of DTC, references herein to the holders or registered owners of the Bonds will mean Cede & Co. and will not mean the Beneficial Owners of the Bonds.

None of the City, KUB, the Registration Agent, the Municipal Advisor or the Underwriter will have any responsibility or obligation to the Participants, DTC or the persons for whom they act with respect to (i) the accuracy of any records maintained by DTC or by any Direct or Indirect Participant of DTC, (ii) payments or the providing of notice to Direct Participants, the Indirect Participants or the Beneficial Owners or (iii) any other action taken by DTC or its partnership nominee as owner of the Bonds.

For more information on the duties of the Registration Agent, please refer to the Resolution.

DEBT LIMITATIONS

Pursuant to Title 7, Chapter 34, Tennessee Code Annotated, as amended, there is no limit on the amount of bonds that may be issued when the City uses the statutory authority granted therein to issue bonds.

DISPOSITION OF BOND PROCEEDS

Electric Bonds

The proceeds of the sale of the Electric Bonds shall be applied as follows:

(a) a portion of the proceeds of the sale of the Electric Bonds shall be used to pay the cost related to the issuance and sale of the Electric Bonds, including necessary legal, accounting and fiscal expenses, printing, engraving, advertising and similar expenses, administrative and clerical costs, rating agency fees, Registration Agent Fees and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Electric Bonds and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Electric Bonds; and

(b) the remainder, which together with investment earnings thereon and legally available funds of KUB, if any, will be sufficient to pay principal of, premium, if any, and interest on the Refunded Electric Bonds shall be transferred to the Refunding Escrow Agent under the Refunding Escrow Agreement to be deposited to the Escrow Fund established thereunder to be held and applied as provided therein. If there are any remaining proceeds of the Electric Bonds after refunding the Refunded Electric Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Electric Bonds.

Gas Bonds

The proceeds of the sale of the Gas Bonds shall be applied as follows:

(a) a portion of the proceeds of the sale of the Gas Bonds shall be used to pay the cost related to the issuance and sale of the Gas Bonds, including necessary legal, accounting and fiscal expenses, printing, engraving, advertising and similar expenses, administrative and clerical costs, rating agency fees, Registration Agent Fees and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Gas Bonds and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Gas Bonds; and

(b) the remainder will be held by KUB or the paying agent for the Refunded Gas Bonds and applied to refund the Refunded Gas Bonds. If there are any remaining proceeds of the Gas Bonds after refunding the Refunded Gas Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Gas Bonds.

Water Bonds

The proceeds of the sale of the Water Bonds shall be applied as follows:

(a) a portion of the proceeds of the sale of the Water Bonds shall be used to pay the cost related to the issuance and sale of the Water Bonds, including necessary legal, accounting and fiscal expenses, printing, engraving, advertising and similar expenses, administrative and clerical costs, rating agency fees, Registration

Agent Fees and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Water Bonds and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Water Bonds; and

(b) the remainder will be held by KUB or the paying agent for the Refunded Water Bonds and applied to refund the Refunded Water Bonds. If there are any remaining proceeds of the Water Bonds after refunding the Refunded Water Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Water Bonds.

Wastewater Bonds

The proceeds of the sale of the Wastewater Bonds shall be applied as follows:

(a) a portion of the proceeds of the sale of the Wastewater Bonds shall be used to pay the cost related to the issuance and sale of the Wastewater Bonds, including necessary legal, accounting and fiscal expenses, printing, engraving, advertising and similar expenses, administrative and clerical costs, rating agency fees, Registration Agent Fees and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Wastewater Bonds and other necessary miscellaneous expenses incurred in connection with the issuance and sale of the Wastewater Bonds; and

(b) the remainder will be held by KUB or the paying agent for the Refunded Wastewater Bonds and applied to refund the Refunded Wastewater Bonds. If there are any remaining proceeds of the Wastewater Bonds after refunding the Refunded Wastewater Bonds, such remaining proceeds shall be used to pay principal and/or interest on the Wastewater Bonds.

DISCHARGE AND SATISFACTION OF BONDS

The respective series of Bonds may be discharged and deemed paid as described in Appendix G, Appendix H, Appendix I, and Appendix J, which are “Summaries of Resolutions”.

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LEGAL MATTERS

LITIGATION

There are no suits pending or, to KUB's knowledge, threatened challenging the legality or validity of the Bonds or the right of KUB to sell or issue the Bonds, or that will have an adverse impact on KUB's ability to pay debt service on the Bonds.

TAX MATTERS

Federal

General. Bass, Berry & Sims PLC, Knoxville, Tennessee, is Bond Counsel for the Bonds. Their opinion under existing law, relying on certain statements by KUB and assuming compliance by KUB with certain covenants, is that interest on the Bonds:

- is excluded from a bondholder's federal gross income under the Internal Revenue Code of 1986, as amended (the "Code"), and
- is not a preference item for a bondholder under the federal alternative minimum tax.

The Code imposes requirements on the Bonds that KUB must continue to meet after the Bonds are issued. These requirements generally involve the way that Bond proceeds must be invested and ultimately used. If KUB does not meet these requirements, it is possible that a bondholder may have to include interest on the Bonds in its federal gross income on a retroactive basis to the date of issue. KUB has covenanted to do everything necessary to meet these requirements of the Code.

A bondholder who is a particular kind of taxpayer may also have additional tax consequences from owning the Bonds. This is possible if a bondholder is:

- an S corporation,
- a United States branch of a foreign corporation,
- a financial institution,
- a property and casualty or a life insurance company,
- an individual receiving Social Security or railroad retirement benefits,
- an individual claiming the earned income credit or
- a borrower of money to purchase or carry the Bonds.

If a bondholder is in any of these categories, it should consult its tax advisor.

Bond Counsel is not responsible for updating its opinion in the future. It is possible that future events or changes in applicable law could change the tax treatment of the interest on the Bonds or affect the market price of the Bonds. See also the section "CHANGES IN FEDERAL AND STATE LAWS" below.

Bond Counsel expresses no opinion on the effect of any action taken or not taken in reliance upon an opinion of other counsel on the federal income tax treatment of interest on the Bonds, or under State, local or foreign tax law.

Bond Premium. If a bondholder purchases a Bond for a price that is more than the principal amount, generally the excess is "bond premium" on that Bond. The tax accounting treatment of bond premium is complex. It is amortized over time and as it is amortized a bondholder's tax basis in that Bond will be reduced. The holder of a Bond that is callable before its stated maturity date may be required to amortize the premium over a shorter period, resulting in a lower yield on such Bonds. A bondholder in certain circumstances may realize a taxable gain upon the sale of a Bond with bond premium, even though the Bond is sold for an amount less than or equal to the owner's original cost. If a bondholder owns any Bonds with bond premium, it should consult its tax advisor regarding the tax accounting treatment of bond premium.

Original Issue Discount. A Bond will have "original issue discount" if the price paid by the original purchaser of such Bond is less than the principal amount of such Bond. Bond Counsel's opinion is that any original issue discount on these Bonds as it accrues is excluded from a bondholder's federal gross income under the Internal Revenue Code. The tax accounting treatment of original issue discount is complex. It accrues on an actuarial basis and as it accrues a bondholder's tax basis in these Bonds will be increased. If a bondholder owns one of these Bonds, it should consult its tax advisor regarding the tax treatment of original issue discount.

Information Reporting and Backup Withholding. Information reporting requirements apply to interest on tax-exempt obligations, including the Bonds. In general, such requirements are satisfied if the interest recipient completes, and provides the payor with a Form W-9, "Request for Taxpayer Identification Number and Certification," or if the recipient is one of a limited class of exempt recipients. A recipient not otherwise exempt from information reporting who fails to satisfy the information reporting requirements will be subject to "backup withholding," which means that the payor is required to deduct and withhold a tax from the interest payment, calculated in the manner set forth in the Code. For the foregoing purpose, a "payor" generally refers to the person or entity from whom a recipient receives its payments of interest or who collects such payments on behalf of the recipient.

If an owner purchasing a Bond through a brokerage account has executed a Form W-9 in connection with the establishment of such account, as generally can be expected, no backup withholding should occur. In any event, backup withholding does not affect the excludability of the interest on the Bonds from gross income for Federal income tax purposes. Any amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner's Federal income tax once the required information is furnished to the Internal Revenue Service.

State Taxes

Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxes in Tennessee except (a) Tennessee excise taxes on interest on the Bonds during the period the Bonds are held or beneficially owned by any organization or entity, or other than a sole proprietorship or general partnership doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base of any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

CHANGES IN FEDERAL AND STATE TAX LAW

From time to time, there are Presidential proposals, proposals of various federal committees, and legislative proposals in the Congress and in the states that, if enacted, could alter or amend the federal and state tax matters referred to herein or adversely affect the marketability or market value of the Bonds or otherwise prevent holders of the Bonds from realizing the full benefit of the tax exemption of interest on the Bonds. Further, such proposals may impact the marketability or market value of the Bonds simply by being proposed. It cannot be predicted whether or in what form any such proposal might be enacted or whether if enacted it would apply to bonds issued prior to enactment. In addition, regulatory actions are from time to time announced or proposed and litigation is threatened or commenced which, if implemented or concluded in a particular manner, could adversely affect the market value, marketability or tax status of the Bonds. It cannot be predicted whether any such regulatory action will be implemented, how any particular litigation or judicial action will be resolved, or whether the Bonds would be impacted thereby. Purchasers of the Bonds should consult their tax advisors regarding any pending or proposed legislation, regulatory initiatives or litigation. The opinions expressed by Bond Counsel are based upon existing legislation and regulations as interpreted by relevant judicial and regulatory authorities as of the date of issuance and delivery of the Bonds, and Bond Counsel has expressed no opinion as of any date subsequent thereto or with respect to any proposed or pending legislation, regulatory initiatives or litigation.

Prospective purchasers of the Bonds should consult their own tax advisors regarding the foregoing matters.

CLOSING CERTIFICATES

Upon delivery of the Bonds, the Board and / or KUB will execute in a form satisfactory to Bond Counsel, certain closing certificates (which may be combined into one or more certificates) including the following: (i) A certificate as to the *Official Statement*, in final form, signed by the President & Chief Executive Officer and the Chief Financial Officer of KUB acting in their official capacity to the effect that to the best of their knowledge and belief, and after reasonable investigation, (a) neither the *Official Statement*, in final form, nor any amendment or supplement thereto, contains any untrue statements of material fact or omits to state any material fact necessary to make statements therein, in light of the circumstances in which they are made, misleading, (b) since the date of the *Official Statement*, in final form, no event has occurred which should have been set forth in such a memo or supplement, (c) there has been no material adverse change in the operation or the affairs of KUB since the date of the *Official Statement*, in final form, and having attached thereto a copy of the *Official Statement*, in final form, and (d) there is no litigation of any nature pending or threatened seeking to restrain the issuance, sale, execution and delivery of the Bonds, or contesting the validity of the Bonds or any proceeding taken pursuant to which the Bonds were authorized; (ii) a non-arbitrage certificate which supports the conclusions that based upon facts, estimates and circumstances in effect, upon delivery of the Bonds, the proceeds of the Bonds will not be used in a manner which would cause the Bonds to be arbitrage Bonds; (iii) certificates as to the delivery and payment, signed by the President and CEO and the CFO acting in their official capacity, evidencing delivery of and payment for the Bonds; and (iv) a signature identification and incumbency certificate, signed by the President and Chief Executive Officer and the CFO of KUB acting in their official capacities certifying as to the due execution of the Bonds.

APPROVAL OF LEGAL PROCEEDINGS

Certain legal matters relating to the authorization and the validity of the Bonds are subject to the approval of Bass, Berry & Sims PLC, Knoxville, Tennessee, Bond Counsel. Bond counsel has not prepared the *Preliminary Official Statement* or the *Official Statement*, in final form, or verified their accuracy, completeness or fairness. Accordingly, bond counsel expresses no opinion of any kind concerning the *Preliminary Official Statement* or *Official Statement,* in final form, except for the information under the caption "LEGAL MATTERS-Tax Matters". The opinion of Bond Counsel will be limited to matters relating to authorization and validity of the Bonds and to the tax-exemption of interest on the Bonds under present federal income tax laws, both as described above. The legal opinion will be delivered with the Bonds and is included in APPENDIX A, hereto.

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MISCELLANEOUS

RATINGS

S&P Global Ratings ("S&P") and Moody's Investor Services, Inc. ("Moody's") have given the Electric Bonds the ratings of "AA" and "Aa2", respectively. S&P and Moody's have given the Gas Bonds the ratings of "AA" and "Aa2", respectively. S&P and Moody's have given the Water Bonds the ratings of "AAA" and "Aa1", respectively. S&P and Moody's have given the Wastewater Bonds the ratings of "AA+" and "Aa2", respectively.

KUB furnished S&P and Moody's with certain information and materials concerning the Bonds, the City and KUB. Generally, S&P and Moody's base their ratings on such information and materials and also on such investigations, studies and assumptions that they may undertake independently. Such ratings reflect only the views of such organizations and explanations of the significance of such ratings should be obtained from such agencies.

There is no assurance that such ratings will continue for any given period of time or that the ratings may not be suspended, lowered or withdrawn entirely by S&P and Moody's, if circumstances so warrant. Due to the ongoing uncertainty regarding the economy of the United States of America, including, without limitation, matters such as the future political uncertainty regarding the United States debt limit, obligations issued by state and local governments, such as the Bonds, could be subject to a rating downgrade. Additionally, if a significant default or other financial crisis should occur in the affairs of the United States or of any of its agencies or political subdivisions, then such event could also adversely affect the market for and ratings, liquidity, and market value of outstanding debt obligations, including the Bonds. Any such downward change in or withdrawal of the ratings may have an adverse effect on the secondary market price of the Bonds.

Any explanation of the significance of the ratings may be obtained only from S&P and Moody's.

COMPETITIVE PUBLIC SALE

The Bonds were offered for sale at competitive public bidding on the sale date indicated in the *Official Notice of Sale*. Details concerning the public sale were provided to potential bidders and others in the *Preliminary Official Statement* dated March 12, 2021.

The successful bidder for the Electric Bonds was an account led by Jefferies LLC, New York, New York (the "Electric Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Electric Bonds at a purchase price of $86,672,305.38 (consisting of the par amount of the Electric Bonds, plus an original issue premium of $16,772,021.00 and less an underwriter's discount of $279,715.62) or 123.500008% of par.

The successful bidder for the Gas Bonds was an account led by J.P. Morgan Securities LLC, New York, New York (the "Gas Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Gas Bonds at a purchase price of $49,065,980.02 (consisting of the par amount of the Gas Bonds, plus an original issue premium of $7,207,533.25 and less an underwriter's discount of $61,553.23) or 117.046708% of par.

The successful bidder for the Water Bonds was an account led by Piper Sandler & Co., Minneapolis, Minnesota (the "Water Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Water Bonds at a purchase price of $41,151,534.99 (consisting of the par amount of the Water Bonds, plus an original issue premium of $8,063,283.10 and less an underwriter's discount of $91,748,11) or 124.025121% of par.

The successful bidder for the Wastewater Bonds was an account led by Barclays Capital Inc., New York, New York (the "Wastewater Underwriters") who contracted with the City, acting by and through KUB, subject to the conditions set forth in the Official Notice of Sale and Bid Form, to purchase the Wastewater Bonds at a purchase price of $238,456,364.20 (consisting of the par amount of the Wastewater Bonds, plus an original issue premium of $48,114,585.40 and less an underwriter's discount of $473,221.20) or 124.967306% of par.

MUNICIPAL ADVISOR; RELATED PARTIES; OTHER

Municipal Advisor. Cumberland Securities Company, Inc. has served as Municipal Advisor (the "Municipal Advisor") to KUB for purposes of assisting with the development and implementation of a bond structure in connection with the issuance of the Bonds. The Municipal Advisor has not been engaged by KUB to compile, create, or interpret any information in the *Preliminary Official Statement* and *Official Statement* relating to KUB, including without limitation any of KUB's financial and operating data, whether historical or projected. Any information contained in the *Preliminary Official Statement* and *Official Statement* concerning KUB, any of its affiliates or contractors and any outside parties has not been independently verified by the Municipal Advisor, and inclusion of such information is not, and should not be construed as, a representation by the Municipal Advisor as to its accuracy or completeness or otherwise. The Municipal Advisor is not a public accounting firm and has not been engaged by KUB to review or audit any information in the *Preliminary Official Statement* and *Official Statement* in accordance with accounting standards.

Regions Bank. Regions Bank (the "Bank") is a wholly-owned subsidiary of Regions Financial Corporation. The Bank provides, among other services, commercial banking, investments and corporate trust services to private parties and to State and local jurisdictions, including serving as registration, paying agent, filing agent or escrow agent related to debt offerings. The Bank will receive compensation for its role in serving as Registration and Paying Agent for the Bonds. In instances where the Bank serves KUB in other normal commercial banking capacities, it will be compensated separately for such services.

Official Statements. Certain information relative to the location, economy and finances of the Issuer is found in the *Preliminary Official Statement,* in final form and the *Official Statement*, in final form. Except where otherwise indicated, all information contained in this *Official Statement* has been provided by KUB. The information set forth herein has been obtained by KUB from sources which are believed to be reliable but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of, the Municipal Advisor or the Underwriter. The information contained herein is subject to change without notice, and neither the delivery of this *Official Statement* nor any sale made hereunder shall under any circumstances create an implication that there has been no change in the affairs of KUB, or the other matters described herein since the date hereof or the earlier dates set forth herein as of which certain information contained herein is given.

Cumberland Securities Company, Inc. distributed the *Preliminary Official Statement*, in final form, and the *Official Statement*, in final form on behalf of KUB and will be compensated and/or reimbursed for such distribution and other such services.

Bond Counsel. From time to time, Bass, Berry & Sims PLC has represented the Bank on legal matters unrelated to KUB and may do so again in the future.

Other. Among other services, Cumberland Securities Company, Inc. and the Bank may also assist local jurisdictions in the investment of idle funds and may serve in various other capacities, including Cumberland Securities Company's role as serving as KUB's Dissemination Agent. If KUB chooses to use one or more of these other services provided by Cumberland Securities Company, Inc. and/or the Bank, then Cumberland Securities Company, Inc. and/or the Bank may be entitled to separate compensation for the performance of such services.

INDEPENDENT ACCOUNTANTS

The financial statements of the Electric Division, the Gas Division, the Water Division and the Wastewater Division of KUB, as of June 30, 2020 for the year then ended, included in this *Official Statement,* have been audited by Coulter & Justus, P.C., independent accountants, as stated in their report appearing herein.

FUTURE BONDS

KUB does expect to occasionally sell, from time to time, additional Electric System Bonds, Gas System Bonds, Water System Bonds, and Wastewater System Bonds to finance normal and customary extensions and improvements to such Systems, and to refinance certain outstanding bonds at lower interest rates.

CONTINUING DISCLOSURE

KUB will at the time the Bonds are delivered execute a Continuing Disclosure Certificate as to each System under which it will covenant for the benefit of holders and Beneficial Owners of the Bonds to provide certain financial information and operating data relating to KUB by not later than twelve months after the end of each fiscal year commencing with the fiscal year ending June 30, 2021 (the "Annual Report"), and to provide notice of the occurrence of certain significant events not later than ten business days after the occurrence of the events and notice of failure to provide any required financial information of KUB. The issuer will provide notice in a timely manner to the MSRB of a failure by KUB to provide the annual financial information on or before the date specified in the continuing disclosure agreement. The Annual Report (and audited financial statements if filed separately) and notices described above will be filed by KUB with the Municipal Securities Rulemaking Board ("MSRB") at www.emma.msrb.org and with any State Information Depository which may be established in Tennessee (the "SID"). The specific nature of the information to be contained in the Annual Report or the notices of events is summarized below. These covenants have been made in order to assist the Underwriters in complying with Securities Exchange Act Rule 15c2-12(b), as it may be amended from time to time (the "Rule 15c2-12").

Five-Year History of Filing. While it is believed that all appropriate filings were made with respect to the ratings of KUB's outstanding bond issues, some of which were insured by the various municipal bond insurance companies, no absolute assurance can be made that all such rating changes of the bonds or various insurance companies which insured some transaction were made or made in a timely manner as required by Rule 15c2-12. KUB does not deem any of the forgoing omissions to be material, and therefore, in the judgment of KUB for the past five years, KUB has complied in all material respects with its existing continuing disclosure agreements in accordance with Rule 15c2-12.

Content of Annual Reports. KUB's Annual Report shall contain or incorporate by reference the audited financial statements of each System for the prior fiscal year, prepared in accordance with accounting principles generally accepted in the United States of America, and audited in accordance with auditing standards generally accepted in the United States of America; provided, however, if KUB's audited financial statements are not available by the time the Annual Report is required to be filed, the Annual Report shall contain unaudited financial statements in a format similar to the financial statements contained herein, and the audited financial statements shall be filed when available. The Annual Report shall also include in a similar format the following information included in APPENDIX B entitled "SUPPLEMENTAL INFORMATION STATEMENT."

Electric System.

1. Electric Rates of the Electric Division;
2. Statement of Revenues, Expenses and Changes in Net Position - Knoxville Utilities Board Electric Division for the fiscal year;
3. Operating and Financial History for such year;
4. The Ten Largest Electric Customers of the Electric Division;
5. Summary of Outstanding Bonded Indebtedness;
6. Summary of Bonded Debt Service Requirements; and

7. Historical Debt Service Coverages.

Gas System.

1. Gas Rates of the Gas Division;

2. Operating Statistics and Customer Numbers for such year;

3. Statement of Revenues, Expenses and Changes in Net Position - Knoxville Utilities Board Gas Division for the fiscal year;

4. The Ten Largest Gas Customers of the Gas Division;

5. Summary of Outstanding Bonded Indebtedness;

6. Summary of Bonded Debt Service Requirements; and

7. Historical Debt Service Coverages.

Water System.

1. Water Rates of the Water Division;

2. Operating Statistics and Number of Customers for such year;

3. Condensed Statements of Revenues, Expenses and Changes In Net Position - Knoxville Utilities Board Water Division for the fiscal year;

4. The Ten Largest Water System Customers;

5. Bonds Outstanding;

6. Debt Service Requirements; and

7. Historical Debt Service Coverage on Outstanding Water Bonds.

Wastewater System.

1. Wastewater Rates of the Wastewater Division;

2. Operating Statistics and Number of Customers - Wastewater for such year;

3. Condensed Statements of Revenues, Expenses and Changes in Net Position - Knoxville Utilities Board Wastewater Division for the fiscal year;

4. The Ten Largest Wastewater System Customers;

5. Bonds Outstanding;

6. Debt Service Requirements; and

7. Historical Debt Service Coverages.

Any or all of the items listed above may be incorporated by reference from other documents, including *Official Statements* in final form for debt issues of KUB or the City or related public entities, which have been submitted to the MSRB's EMMA site. If the document incorporated by reference is a final *Official Statement*, in final form, it will be available from the Municipal Securities Rulemaking Board. KUB or the City shall clearly identify each such other document so incorporated by reference.

Reporting of Significant Events. KUB will file notice regarding material events with the MSRB and the SID, if any, as follows:

1. Upon the occurrence of a Listed Event (as defined in (3) below), KUB shall in a timely manner, but in no event more than ten (10) business days after the occurrence of such event, file a notice of such occurrence with the MSRB and SID, if any.

2. For Listed Events where notice is only required upon a determination that such event would be material under applicable Federal securities laws, KUB shall determine the materiality of such event as soon as possible after learning of its occurrence.

3. The following are the Listed Events:

    a. Principal and interest payment delinquencies;

    b. Non-payment related defaults, if material;

    c. Unscheduled draws on debt service reserves reflecting financial difficulties;

    d. Unscheduled draws on credit enhancements reflecting financial difficulties;

    e. Substitution of credit or liquidity providers, or their failure to perform;

    f. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the Bonds or other material events affecting the tax status of the Bonds;

    g. Modifications to rights of Bondholders, if material;

    h. Bond calls, if material, and tender offers;

    i. Defeasances;

    j. Release, substitution, or sale of property securing repayment of the securities, if material;

    k. Rating changes;

    l. Bankruptcy, insolvency, receivership or similar event of the obligated person;

    m. The consummation of a merger, consolidation or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material;

    n. Appointment of a successor or additional trustee or the change of name of a trustee, if material;

o. Incurrence of a financial obligation (which includes a debt obligation, a derivative instrument entered into connection with, or pledged as security or as a source of payment for, an existing or planned debt obligation, or a guarantee of debt obligation or derivative instrument) of KUB, if material, or agreement as to covenants, events of default, remedies, priority rights, or other similar terms of a financial obligation of KUB, any of which affect security holders, if material; and

p. Default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a financial obligation (as described above) of KUB, any of which reflect financial difficulties.

Termination of Reporting Obligation. KUB's obligations under the Disclosure Certificate shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Bonds.

Amendment; Waiver. Notwithstanding any other provision of a Disclosure Certificate, KUB may amend any Disclosure Certificate, and any provision of a Disclosure Certificate may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions concerning the Annual Report and reporting of material significant events it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the Bonds, or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (i) is approved by the holders of the applicable Bonds, or (ii) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the holders or Beneficial Owners of the Bonds.

In the event of any amendment or waiver of a provision of a Disclosure Certificate, KUB shall describe such amendment in the next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or, in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by KUB. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of such change shall be given, and (ii) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

Default. In the event of a failure of KUB to comply with any provision of a Disclosure Certificate, any holder or any beneficial owner may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause KUB to comply with its obligations under the Disclosure Certificate. A default under a Disclosure Certificate shall not be deemed an event of default, if any, under any Resolution and the sole remedy under each Disclosure Certificate in the event of any failure of KUB to comply with the Disclosure Certificate shall be an action to compel performance.

BONDHOLDER RISK - COVID-19

The world-wide outbreak of COVID-19, a respiratory disease caused by a new strain of coronavirus, has spread to several counties and cities in the State of Tennessee, including the City, and is considered by the World

Health Organization to be a Public Health Emergency of International Concern. The spread of COVID-19 has led to quarantine and other "social distancing" measures in affected regions. While effects of COVID-19 on the City and KUB may be temporary, the virus has affected travel, commerce and financial markets across the world. Additionally, U.S. and global stock markets have recently experienced significant volatility and overall declines that have attributed to COVID-19 concerns.

The City and KUB are unable to predict: (i) the extent or duration of the COVID-19 outbreak or any other epidemic or pandemic; (ii) the extent or duration of existing and additional quarantines, travel restrictions or other measures relating to COVID-19 or any other epidemic or pandemic; or (iii) whether and to what extent the COVID-19 outbreak or any other epidemic or pandemic may disrupt the local or global economy, manufacturing or the supply chain or whether any such disruption may adversely affect the operations of the Issuer. Given the evolving nature of the spread of the virus and the behavior of governments, businesses and individuals in response thereto, the City and KUB cannot accurately predict the magnitude of the impact of COVID-19 on the City and KUB and its financial condition. The City and KUB are proactively taking steps to mitigate the spread of COVID-19 and to preserve effective staffing for all essential Issuer operations.

Although KUB cannot accurately predict the magnitude of the ultimate impact of COVID-19 outbreak on KUB's finances, KUB is carefully monitoring the immediate effect of the COVID-19 outbreak on KUB's finances and is attempting to make projections as to the effect of the COVID-19 outbreak for the upcoming fiscal year. KUB's only source of revenues is each respective system revenues. KUB's electric system revenues for fiscal year ending June 30, 2020 was comparable to prior years. KUB's gas system revenues for fiscal year ending June 30, 2020 was comparable to prior years. KUB's water system revenues for fiscal year ending June 30, 2020 was comparable to prior years. KUB's wastewater system revenues for fiscal year ending June 30, 2020 was comparable to prior years.

The administration for KUB has adopted a budget for the 2021 fiscal year commencing July 1, 2020 which does not anticipate a decrease in revenues. However, KUB has deferred projects in the 2021 fiscal year to accommodate for any financial impacts of the COVID-19 outbreak.

The Electric System liquidity position remains strong. As of June 30, 2020, KUB had in excess of $38.5 million in reserves for the Electric System, which is approximately 6% of KUB's Electric System budget. KUB's current liquidity position is expected to be adequate to fund essential services and make timely debt service payments on debt of the Electric System.

The Gas System liquidity position remains strong. As of June 30, 2020, KUB had in excess of $20.3 million in reserves for the Gas System, which is approximately 16% of KUB's Gas System budget. KUB's current liquidity position is expected to be adequate to fund essential services and make timely debt service payments on debt of the Gas System.

The Water System liquidity position remains strong. As of June 30, 2020, KUB had in excess of $17.9 million in reserves for the Water System, which is approximately 19% of KUB's Water System budget. KUB's current liquidity position is expected to be adequate to fund essential services and make timely debt service payments on debt of the Water System.

The Wastewater System liquidity position remains strong. As of June 30, 2020, KUB had in excess of $34.4 million in reserves for the Wastewater System, which is approximately 25% of KUB's Wastewater System budget. KUB's current liquidity position is expected to be adequate to fund essential services and make timely debt service payments on debt of the Wastewater system.

Various types of information regarding employment and income trends within the Issuer and Knox County are detailed in APPENDIX F. This information was assembled prior to the COVID-19 outbreak and may not be reflective of current financial conditions. For example, unemployment rates throughout the United States, including the City and the County, have increased significantly since the COVID-19 outbreak. Furthermore, APPENDIX F lists the largest employers in the County. The COVID-19 outbreak has affected businesses throughout the United States, including businesses in the County, and many of the employers listed in APPENDIX F have been forced to reduce their employment levels from the levels described in APPENDIX F. Given the fluidity of the current economic environment, the City and KUB are not able to provide sufficiently accurate updates to this information.

ADDITIONAL INFORMATION

Use of the words "shall," "must," or "will" in the *Preliminary Official Statement* and *Official Statement* in summaries of documents or laws to describe future events or continuing obligations is not intended as a representation that such event will occur or obligation will be fulfilled but only that the document or law contemplates or requires such event to occur or obligation to be fulfilled.

Any statements made in the *Preliminary Official Statement* and *Official Statement* involving estimates or matters of opinion, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates or matters of opinion will be realized. Neither the *Preliminary Official Statement* and *Official Statement* nor any statement which may have been made orally or in writing is to be construed as a contract with the owners of the Bonds.

The references, excerpts and summaries contained herein of certain provisions of the laws of the State of Tennessee, and any documents referred to herein, do not purport to be complete statements of the provisions of such laws or documents, and reference should be made to the complete provisions thereof for a full and complete statement of all matters of fact relating to the Bonds, the security for the payment of the Bonds, and the rights of the holders thereof.

The *Preliminary Official Statement* and *Official Statement*, in final form, and any advertisement of the Bonds, is not to be construed as a contract or agreement between the City and the purchasers of any of the Bonds. Any statements or information printed in the *Preliminary Official Statement* or the *Official Statement,* in final form, involving matters of opinions or of estimates, whether or not expressly so identified, is intended merely as such and not as representation of fact.

KUB, on behalf of the City, has deemed this *Official Statement* as “final” as of its date within the meaning of Rule 15c2-12.

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CERTIFICATION OF ISSUER

On behalf of the City and KUB, we hereby certify that to the best of our knowledge and belief, the information contained herein as of this date is true and correct in all material respects, and does not contain an untrue statement of material fact or omit to state a material fact required to be stated where necessary to make the statement made, in light of the circumstance under which they were made, not misleading.

KNOXVILLE UTILITIES BOARD

/s/ Gabriel J. Bolas II
President and CEO

/s/ Mark A. Walker
Senior Vice President and CFO

APPENDIX A

LEGAL OPINIONS

LAW OFFICES OF
BASS, BERRY & SIMS PLC
900 SOUTH GAY STREET, SUITE 1700
KNOXVILLE, TENNESSEE 37902

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer"), acting by and through the Knoxville Utilities Board, of $70,180,000 Electric System Revenue Refunding Bonds, Series LL-2021, dated April 19, 2021 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-79-2021 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the electric system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Electric System Revenue Refunding Bonds, Series AA-2012, dated April 20, 2012, maturing July 1, 2021 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Electric System Revenue Bonds, Series BB-2012, dated December 18, 2012, maturing July 1, 2021 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Electric System Revenue Refunding Bonds, Series CC-2013, dated March 15, 2013, maturing July 1, 2021 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Electric System Revenue Bonds, Series DD-2014, dated September 18, 2014, maturing July 1, 2021 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Electric System Revenue Refunding Bonds, Series EE-2015, dated May 1, 2015, maturing July 1, 2021 and thereafter, its outstanding Electric System Revenue Bonds, Series FF-2015, dated May 20, 2015, maturing July 1, 2021 and thereafter, its outstanding Electric System Revenue Bonds, Series GG-2016, dated August 5, 2016, maturing July 1, 2021 and thereafter, its outstanding Electric System Revenue Refunding Bonds, Series HH-2017, dated April 7, 2017, maturing July 1, 2021 and thereafter, its outstanding Electric System Revenue Bonds, Series II-2017, dated September 15, 2017, maturing July 1, 2021 and thereafter, its outstanding Electric System Revenue Bonds, Series JJ-2018, dated September 14, 2018, maturing July 1, 2021 and thereafter, and its outstanding Electric System Revenue Refunding Bonds, Series KK-2020, dated May 22, 2020, maturing July 1, 2021 and thereafter. We express no opinion as to the sufficiency of

such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

LAW OFFICES OF
BASS, BERRY & SIMS PLC
900 SOUTH GAY STREET, SUITE 1700
KNOXVILLE, TENNESSEE 37902

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer"), acting by and through the Knoxville Utilities Board, of $41,920,000 Gas System Revenue Refunding Bonds, Series AA-2021, dated April 19, 2021 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-80-2021 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the gas system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Gas System Revenue Refunding Bonds, Series Q-2012, dated April 20, 2012, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, the City's outstanding Gas System Revenue Bonds, Series R-2012, dated December 18, 2012, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, the City's outstanding Gas System Revenue Refunding Bonds, Series S-2013, dated March 15, 2013, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, the City's outstanding Gas System Revenue Bonds, Series T-2013, dated October 1, 2013, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, the City's outstanding Gas System Revenue Refunding Bonds, Series U-2015, dated May 1, 2015, maturing March 1, 2022 and thereafter, the City's outstanding Gas System Revenue Bonds, Series V-2016, dated August 5, 2016, maturing March 1, 2022 and thereafter, the City's outstanding Gas System Revenue Refunding Bonds, Series W-2017, dated April 7, 2017, maturing March 1, 2022 and thereafter, the City’s outstanding Gas System Revenue Bonds, Series X-2017, dated September 15, 2017, maturing March 1, 2022 and thereafter, the City’s outstanding Gas System Revenue Bonds, Series Y-2018, dated September 14, 2018, maturing March 1, 2022 and thereafter, and the City's outstanding Gas System Revenue Refunding Bond, Series Z-2020, dated May 22, 2020, maturing March 1, 2022 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours

LAW OFFICES OF
BASS, BERRY & SIMS PLC
900 SOUTH GAY STREET, SUITE 1700
KNOXVILLE, TENNESSEE 37902

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer"), acting by and through the Knoxville Utilities Board, of $33,180,000 Water System Revenue Refunding Bonds, Series LL-2021, dated April 19, 2021 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-81-2021 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the water distribution and treatment system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Water System Revenue Refunding Bonds, Series X-2012, dated April 20, 2012, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Series LL-2021 Bonds, its outstanding Water System Revenue Refunding Bonds, Series Y-2013, dated March 15, 2013, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Series LL-2021 Bonds, its outstanding Water System Revenue Bonds, Series Z-2013, dated October 1, 2013, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Series LL-2021 Bonds, its outstanding Water System Revenue Bonds, Series AA-2014, dated September 18, 2014, maturing March 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Series LL-2021 Bonds, its outstanding Water System Revenue Refunding Bonds, Series BB-2015, dated May 1, 2015, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Bonds, Series CC-2015, dated May 20, 2015, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Bonds, Series DD-2016, dated August 5, 2016, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Refunding Bonds, Series EE-2016, dated August 5, 2016, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Refunding Bonds, Series FF-2017, dated April 7, 2017, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Bonds, Series GG-2017, dated September 15, 2017, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Bonds, Series HH-2018, dated September 14, 2018, maturing March 1, 2022 and thereafter, its outstanding Water System Revenue Bonds, Series II-2019, dated August 20, 2019, maturing March 1, 2022 and thereafter, its Water System Revenue Refunding

Bonds, Series JJ-2020, dated May 22, 2020, maturing March 1, 2022 and thereafter, and its Water System Revenue Bonds, Series KK-2020, dated October 30, 2020, maturing March 1, 2022 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

LAW OFFICES OF
BASS, BERRY & SIMS PLC
900 SOUTH GAY STREET, SUITE 1700
KNOXVILLE, TENNESSEE 37902

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Knoxville, Tennessee (the "Issuer"), acting by and through the Knoxville Utilities Board, of $190,815,000 Wastewater System Revenue Refunding Bonds, Series 2021A, dated April 19, 2021 (the "Bonds"). In such capacity, we have examined the law and such certified proceedings and other papers as we deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon the certified proceedings and other certifications of public officials and others furnished to us without undertaking to verify such facts by independent investigation.

Based on the foregoing, we are of the opinion, as of the date hereof, as follows:

1. The Bonds have been duly authorized, executed and issued in accordance with the constitution and laws of the State of Tennessee and are valid and binding obligations of the Issuer.

2. Resolution No. R-82-2021 of the City Council of the Issuer authorizing the Bonds has been duly and lawfully adopted, is in full force and effect and is a valid and binding agreement of the Issuer enforceable in accordance with its terms.

3. The principal of, premium, if any, and interest on the Bonds are payable solely from and secured by a pledge of the income and revenues to be derived from the operation of the wastewater treatment and collection system of the Issuer, subject only to the payment of the reasonable and necessary costs of operating, maintaining, repairing, and insuring said system and on a parity and equality of lien with the Issuer's outstanding Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds), dated December 8, 2010, maturing April 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Wastewater System Revenue Refunding Bonds, Series 2012A, dated April 20, 2012, maturing April 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Wastewater System Revenue Bonds, Series 2012B, dated December 18, 2012, maturing April 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Wastewater System Revenue Refunding Bonds, Series 2013A, dated March 15, 2013, maturing April 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Wastewater System Revenue Bonds, Series 2014A, dated September 18, 2014, maturing April 1, 2022 and thereafter to the extent, if any, not refunded with the proceeds of the Bonds, its outstanding Wastewater System Revenue Refunding Bonds, Series 2015A, dated May 1, 2015, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2015B, dated May 20, 2015, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2016, dated August 5, 2016, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Refunding Bonds, Series 2017A, dated April 7, 2017, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2017B, dated September 15, 2017, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2018, dated September 14, 2018, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Bonds, Series 2019, dated August 20, 2019, maturing April 1, 2022 and thereafter, its outstanding Wastewater System Revenue Refunding Bonds, Series 2020A,

dated May 22, 2020, maturing April 1, 2022 and thereafter, and Wastewater System Revenue Bonds, Series 2020B, dated October 30, 2020, maturing April 1, 2022 and thereafter. We express no opinion as to the sufficiency of such revenues for the payment of principal of, premium, if any, or interest on the Bonds. The owners of the Bonds shall have no recourse to the power of taxation of the Issuer.

4. Interest on the Bonds (including any original issue discount properly allocable to an owner thereof) is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. The opinion set forth in the preceding sentence is subject to the condition that the Issuer comply with all requirements of the Internal Revenue Code of 1986, as amended, that must be satisfied subsequent to the issuance of the Bonds in order that interest thereon be, or continue to be, excluded from gross income for federal income tax purposes. The Issuer has covenanted to comply with all such requirements. Failure to comply with certain of such requirements could cause interest on the Bonds to be so included in gross income retroactive to the date of issuance of the Bonds. Except as set forth in this Paragraph 4, we express no opinion regarding other federal tax consequences arising with respect to the Bonds.

5. Under existing law, the Bonds and the income therefrom are exempt from all present state, county and municipal taxation in Tennessee except (a) Tennessee excise taxes on all or a portion of the interest on any of the Bonds during the period such Bonds are held or beneficially owned by any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee, and (b) Tennessee franchise taxes by reason of the inclusion of the book value of the Bonds in the Tennessee franchise tax base or any organization or entity, other than a sole proprietorship or general partnership, doing business in the State of Tennessee.

It is to be understood that the rights of the owners of the Bonds and the enforceability of the Bonds and the resolution authorizing the Bonds may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights generally and by equitable principles, whether considered at law or in equity.

We express no opinion herein as to the accuracy, adequacy or completeness of the Official Statement relating to the Bonds.

This opinion is given as of the date hereof and we assume no obligation to update or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention or changes in law that may hereafter occur.

Very truly yours,

APPENDIX B-1

THE ELECTRIC DIVISION

THE ELECTRIC DIVISION

INTRODUCTION

Knoxville Utilities Board ("KUB") was established in 1939 and, under terms of the current City Charter, is vested with the authority to purchase, produce, sell and distribute utility services both inside and outside the city limits. All of the facilities used to provide these services are under the jurisdiction, control and management of the Board of Commissioners of KUB.

SOURCE OF ELECTRIC POWER

KUB does not generate any electric power. KUB purchases its entire power supply requirements from the Tennessee Valley Authority ("TVA") pursuant to a power contract dated May 11, 1988 as supplemented and amended (the "Power Contract"). The Power Contract is the fourth to be entered into between KUB and TVA. Under the Power Contract, TVA agrees to supply the amount of electric power required for service to KUB's electric customers and KUB agrees to purchase all of its electric power from TVA, about 6 billion kilowatt hours annually.

The Power Contract provides that TVA shall make every reasonable effort to increase the generating capacity of its system and to provide transmission facilities required to deliver the output thereof so as to be in a position to supply additional power when and to the extent needed by KUB. Neither TVA nor KUB is liable for breach of contract if the availability or use of power is interrupted or curtailed or if either party is prevented from performing under the Power Contract by circumstances reasonably beyond its control. The amount of power supplied by TVA and the contractual obligation to supply such power are limited by the capacity of TVA's generating and transmission facilities and the customary purchases from other companies on the power grid.

The Power Contract provides that KUB may sell power to all customers in its service area, except certain federal installations and large customers, which TVA may serve directly. At the present time, TVA does not directly serve any customers located within KUB's electric service territory.

The initial term of the contract was for twenty years, with an automatic one-year extension beginning on the tenth anniversary of the contract. In May 2002, KUB and TVA amended the contract in several ways to provide more flexibility to both parties. First, KUB's contract termination notification requirement was reduced from ten years to five years. Also, TVA relinquished its regulatory authority over KUB's electric retail rates (prior to May 2002, the Power Contract specified the retail rates to be charged by KUB, and KUB was obligated to adjust these rates in response to any adjustment in TVA wholesale rates. The adjustment of retail rates to cover changes in KUB cost also had to be approved by TVA).

In March 2020, KUB executed a new Long-Term Partnership Agreement with TVA, extending the term of its five-year evergreen power supply contract with TVA to a 20-year evergreen contract. In return for signing the longer-term agreement with TVA, KUB will receive an annual partnership credit of 3.1% on TVA's wholesale base rates, estimated to be around $9.5 million per year. Among other things, the new partnership agreement also provides KUB with the flexibility to self-generate up to five percent of its annual power supply through renewable sources.

KUB will be using a portion of the annual partnership credit, around $1,600,000 annually, to purchase 502 MW of solar power to meet the needs of its electric system customers through TVA's Green Invest Program. This first-of-its-kind agreement in the TVA region will provide 1.1 billion kilowatt-hours of solar output and represent about 20 percent of KUB's electric system load. Solar developments providing 247 MW of solar energy are due to be completed by fall 2022 and 255 MW will be added by fall 2023.

In April 1996 the Federal Energy Regulatory Commission (FERC) issued Order 888 which effectively ordered public interstate transmission companies to provide open access to their transmission systems. TVA, which is not presently subject to FERC jurisdiction, cannot be ordered by FERC to transmit (wheel) power on behalf of others for use inside its legislatively defined service territory (the "Fence"). Consequently, this "Anti-Cherry Picking" provision of federal law combined with KUB's long-term power contract with TVA has essentially precluded KUB from having the opportunity to purchase power from alternative sources.

THE TENNESSEE VALLEY AUTHORITY

TVA was established as a wholly-owned corporate agency and instrumentality of the United States of America by the Tennessee Valley Authority Act of 1933, as amended. The Act's objective is the development of the resources of the Tennessee Valley and adjacent areas in order to strengthen the regional and national economy and the national defense. Its specific purposes include: (1) flood control on the Tennessee River and its tributaries, and assistance to flood control on the lower Ohio and the Mississippi Rivers; (2) a modern navigable channel for the Tennessee River; (3) an ample supply of power within an area of 80,000 square miles; (4) development and introduction of more efficient soil fertilizers; and (5) greater agricultural and industrial development and improved forestry in the region.

In 2005, Congress passed legislation that impacted TVA in two significant ways. First, it changed the structure of TVA's Board from a three-person, full-time Board to a nine-person, part-time Board, which meets at least four times per year. The new Board members, whose appointment terms are five years, were appointed by the President and confirmed by the Senate. All powers of TVA are vested in its Board. Second, the new law requires TVA to file periodic financial updates with the Securities and Exchange Commission (the "SEC"), and be subject to certain reporting requirements of the SEC.

THE ELECTRIC SYSTEM

KUB serves 210,393 electric customers over a 688 square mile service area, including portions of seven counties. The system includes over 5,408 miles of service lines and 63 distribution substations. The peak capacity of the system is 3,029,500 kVa. KUB's electric system experienced a record peak in demand of 1,328 megawatt hours in February 2015.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. In October 2020, KUB allowed customers with past due balances to participate in repayment plans and in turn resumed customer disconnects. KUB also received $7.3 million from TVA in Pandemic Relief credits. The funds are being used to assist residential customers on payment plans.

Century II is KUB's proactive long-range program to improve and maintain its electric, natural gas, water and wastewater systems for its customers. It includes the maintenance and asset replacement strategies for each utility system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board endorsed a ten-year funding plan for the Electric Division, which included a combination of rate increases and debt issues to fully fund the electric system's Century II program. In September 2011, the Board adopted the first three rate increases of the ten-year funding plan for the electric system, which were effective October 2011, October 2012, and October 2013.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved three annual rate increases for the Electric Division to support the Century II program. The July 2014, July 2015 and July 2016 rate increases each provided an additional $5 million in annual revenue to help fund the Electric Division.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend approximately $124.4 million on Grid Modernization, of which the Electric Division's share is approximately $80.1 million. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending $48.7 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of electric rate increases to support the Century II program. The three approved electric rate increases went into effect in October 2017, October 2018, and October 2019 generating $10.9 million, $11.2 million, and $5.7 million in additional annual Electric Division revenue, respectively.

During fiscal year 2020, KUB replaced 1,962 poles, exceeding the target level of 1,900 poles, and replaced 15.1 miles of transmission lines, slightly exceeding the target level of 15 miles, while staying on track with Century II goals and within the Electric Division's total capital budget.

PENSION PLAN

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

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Participants in the Plan consisted of the following as of December 31:

	2019	2018
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provides retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

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Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contributions.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $1,241,196 and $1,515,197 are attributable to the Electric Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,520,486. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,759,281. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

See Appendix B-2 for additional pension plan information.

QUALIFIED EXCESS BENEFIT ARRANGEMENT (QEBA)

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68 ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $9,713 at June 30, 2020, and $111,304 at June 30, 2019.

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GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	2018
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease) Total Pension Liability
Balances at December 31, 2018	$ 231,883
Changes for the year:	
Service cost	-
Interest	9,181
Changes of Benefits	(218,272)
Differences between Expected and Actual Experience	34
Changes of Assumptions	13,342
Benefit payments	(15,932)
Net changes	(211,647)
Balances at December 31, 2019	$ 20,236

Actuarial Assumptions

The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018

Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate

The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate

The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $95,567). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $12). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $10,403) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $2,627) from experience losses in prior years.

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During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $104,771). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $5,124). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $6,610) and a deferred outflow of $29,385 (Division's share $14,105) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $2,920).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445
Division's share	$ 24,788	$ 17,013

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $2,920). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $14,181). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $13,872). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $3,941).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $8,813). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $21,157). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $3,476).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 28,574	$ 22,685

OTHER POST-EMPLOYMENT BENEFITS (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust’s Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust’s adopted investment target allocations as set forth in the Trust’s Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division’s share $149,436). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan’s actuarial valuations as of January 1, 2018, and 2017.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan’s current funding policy. The Electric Division’s portion of this contribution is $363,468. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan’s current funding policy. The Electric Division’s portion of this contribution is $234,752. The Plan’s actuarial funded ratio is 97.68 percent.

See Appendix B-2 for additional OPEB information.

FISCAL YEAR 2021 FINANCIAL UPDATE

As of December 31, 2020, the Electric Division had $291.7 million in outstanding debt, representing a debt to capitalization ratio of 40.3 percent. The Electric Division's current maximum debt service coverage ratio is projected to be 3.26.

For the six months ending December 31, 2020, KUB's Electric Division recorded earnings of $21.1 million, representing an increase of $3.1 million over the same period last fiscal year. This increase is the result of a 3.1 percent increase in sales volumes compared to the same period last fiscal year and the October 2019 rate increase.

Capital investment in electric system infrastructure is projected to be approximately $54.9 million for fiscal year 2021, reflecting KUB's continued commitment to the timely replacement of critical electric system assets, including poles, underground cable, and substation transformers, in addition to key overhead line and substation improvement projects.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

ELECTRIC RATES

The rate schedules of the Electric Division are subject to the approval of the KUB Board of Commissioners. In October 2002, the Board established a Purchased Power Adjustment (the "PPA") mechanism, which provides for the adjustment of applicable electric rates to changes in TVA's wholesale power costs. In October 2006, TVA incorporated a Fuel Cost Adjustment that is evaluated on a quarterly basis to reflect change in the TVA's fuel costs. These fuel cost adjustments are flowed through the KUB's electric customers via the PPA mechanism. In October of 2009, TVA's Fuel Cost Adjustments were changed to a monthly evaluation.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its Purchased Power Adjustment to include a deferred accounting component to ensure appropriate matching of revenue and expenses and power cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the Purchased Power Adjustment.

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The current rate schedules of the Electric Division are as follows:

RESIDENTIAL RATE - SCHEDULE RS

Availability

This rate shall be available only for electric service to a single-family dwelling and its appurtenances, where the major use of electricity is for domestic purposes such as lighting, household appliances, and the personal comfort and convenience of those residing therein.

Character of Service

Alternating current, single-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB. Multi-phase service shall be supplied in accordance with KUB's standard policy.

Base Charges

Basic Service Charge:	$20.50 per month
Energy Charge:	
Summer Period -	$0.08852 per kWh per month
Winter Period -	$0.08811 per kWh per month
Transition Period -	$0.08811 per kWh per month

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

Minimum Monthly Bill

The basic service charge constitutes the minimum monthly bill for all customers served under this rate schedule except those customers for which a higher minimum monthly bill is required under KUB's standard policy because of special circumstances affecting the cost of rendering service.

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Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

PILOT PROGRAM
Residential Time-of-USE Rate
Schedule RS-TOU

Residential Time-Of-Use Rate Pilot Program Description

The purpose of the Residential Time-Of-Use Rate pilot program (RS-TOU pilot) is to enable a phased implementation of Time-Of-Use rates for all KUB Residential customers. The RS-TOU pilot will provide participating customers experience with Time-Of-Use billing processes and the bill impacts of varying usage in response to Time-Of-Use rates. The duration of the RS-TOU pilot shall be determined by KUB at its sole discretion.

Residential Time-Of-Use Rate Pilot Program Availability

This rate shall be available only for electric service through a single meter, or served through a multiple meter configuration designed as a single billing point for the Generation Partner program, or similar TVA program, to a single-family dwelling, where the major use of electricity is for domestic purposes such as lighting, household appliances, and the personal comfort and convenience of those residing therein. This rate shall be available to customers which have an advanced meter and have elected to participate in the RS-TOU pilot. KUB reserves the right to limit participation.

Character of Service

Alternating current, single-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB. Multi-phase service shall be supplied in accordance with KUB's standard policy.

Base Charges

Basic Service Charge:	$20.50 per month	
Energy Charge:		
Onpeak	$0.19531	per kWh per month for all metered onpeak kWh
Offpeak	$0.06321	per kWh per month for all metered offpeak kWh

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Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Onpeak and Offpeak Hours

All hours stated in Eastern Prevailing time

Weekdays (Monday - Friday)

Onpeak	2 p.m. to 8 p.m. calendar months April through October 5 a.m. to 11 a.m. calendar months November through March
Offpeak	All other hours

Weekends and Holidays*

All hours Offpeak

*Holidays include:

New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day

Minimum Monthly Bill

The basic service charge constitutes the minimum monthly bill for all customers served under this rate schedule except those customers for which a higher minimum monthly bill is required under KUB's standard policy because of special circumstances affecting the cost of rendering service.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

GENERAL POWER RATE - SCHEDULE GSA

Availability

This rate shall be available for the firm power requirements (where a customer's contract demand is 5,000 kW or less) for electric service to non-residential customers. This rate shall also apply to customers to whom service is not available under any other resale rate schedule.

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Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB.

Base Charges

1. If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kW and (b) the customer's monthly energy takings for any month during such period do not exceed 15,000 kWh:

Customer Charge:		$29.00 per delivery point per month
Energy Charge:		
	Summer Period -	$0.10875 per kWh per month
	Winter Period -	$0.10834 per kWh per month
	Transition Period -	$0.10834 per kWh per month

2. If (a) the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 1,000 kW or (b) the customer's billing demand is less than 50 kW and its energy takings for any month during such period exceed 15,000 kWh:

Customer Charge:		$95.00 per delivery point per month
Demand Charge:		
	Summer Period -	First 50 kW of billing demand per month, no demand charge Excess over 50 kW of billing demand per month, at $15.33 per kW
	Winter Period -	First 50 kW of billing demand per month, no demand charge Excess over 50 kW of billing demand per month, at $14.54 per kW
	Transition Period -	First 50 kW of billing demand per month, no demand charge Excess over 50 kW of billing demand per month, at $14.54 per kW
Energy Charge:		
	Summer Period -	First 15,000 kWh per month at $0.13563 per kWh Additional kWh per month at $0.05789 per kWh
	Winter Period -	First 15,000 kWh per month at $0.13522 per kWh Additional kWh per month at $0.05789 per kWh
	Transition Period -	First 15,000 kWh per month at $0.13522 per kWh Additional kWh per month at $0.05789per kWh

3. If the higher of (a) the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW:

Customer Charge: $260.00 per delivery point per month

Demand Charge:

Summer Period - First 1,000 kW of billing demand per month, at $16.07 per kW
Excess over 1,000 kW of billing demand per month, at $16.72 per kW, plus an additional
$16.72 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand

Winter Period - First 1,000 kW of billing demand per month, at $15.31 per kW
Excess over 1,000 kW of billing demand per month, at $15.96 per kW, plus an additional
$15.96 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand

Transition Period - First 1,000 kW of billing demand per month, at $15.31 per kW
Excess over 1,000 kW of billing demand per month, at $15.96 per kW, plus an additional
$15.96 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand

Energy Charge:

Summer Period - $0.06776 per kWh per month
Winter Period - $0.06776 per kWh per month
Transition Period - $0.06776 per kWh per month

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

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Determination of Demand

KUB shall meter the demands in kW of all customers having loads in excess of 50 kW. The metered demand for any month shall be the highest average during any 30-consecutive-minute period of the month of the load metered in kW. The measured demand for any month shall be the higher of the highest average during any 30-consecutive-minute period of the month of (a) the load metered in kW or (b) 85 percent of the load in kVA plus an additional 10 percent for that part of the load over 5,000 kVA, and such measured demand shall be used as the billing demand, except that the billing demand for any month shall in no case be less than 30 percent of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule shall not be less than the sum of (a) the base customer charge, (b) the base demand charge, as adjusted, applied to the customer's billing demand, and (c) the base energy charge, as adjusted, applied to the customer's energy takings; provided, however, that, under (2.) of the Base Charges, the monthly bill shall in no event be less than the sum (a) the base customer charge and (b) 20 percent of the portion of the base demand charge, as adjusted, applicable to the second block (excess over 50kW) of billing demand, multiplied by the higher of the customer's currently effective contract demand or its highest billing demand established during the preceding 12 months.

KUB may require minimum bills higher than those stated above.

Contract Requirements

KUB shall require contracts for service provided under this rate schedule to customers whose demand requirements exceed 1,000 kW and such contracts shall be for an initial term of at least one year. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single – Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery and metering point at each different voltage shall be separately metered and billed.

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Rules and Regulations

Service is subject to Rules and Regulations of KUB.

PILOT PROGRAM
GENERAL POWER TIME-OF-USE RATE
SCHEDULE GSA-TOU

General Power Time-Of-Use Rate Pilot Program Description

The purpose of the General Power Time-Of-Use Rate pilot program (GSA-TOU pilot) is to enable a phased implementation of Time-Of-Use rates for all KUB General Power customers with demand of 1,000 kW or less. The GSA -TOU pilot will provide participating customers experience with Time-Of-Use billing processes and the bill impacts of varying usage in response to Time-Of-Use rates. The duration of the GSA-TOU pilot shall be determined by KUB at its sole discretion.

General Power Time-Of-Use Pilot Program Availability

This rate shall be available for the firm power requirements (where a customer's contract demand is 1,000 kW or less) for electric service to non-residential customers. This rate shall be available to customers which have an advanced meter and have elected to participate in the GSA-TOU pilot. KUB reserves the right to limit participation.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a service voltage available in the vicinity or agreed to by KUB.

Base Charges

1. If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kW*:*

Customer Charge: $29.00 per delivery point per month
Demand Charge: $2.00 per kW of maximum billing demand per month
Energy Charge:
    Onpeak $0.20311 per kWh per month for all metered onpeak kWh
    Offpeak $0.07101 per kWh per month for all metered offpeak kWh

2A. If the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 100 kW*:*

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Customer Charge: $95.00 per delivery point per month
Demand Charge: $4.45 per kW of maximum billing demand per month
Energy Charge:
  Onpeak $0.21494 per kWh per month for all metered onpeak kWh
  Offpeak $0.08284 per kWh per month for all metered offpeak kWh

2B. If the higher of (a) the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 100 kW but not more than 1,000 kW:

Customer Charge: $110.00 per delivery point per month
Demand Charge: $6.56 per kW of maximum billing demand per month
Energy Charge:
  Onpeak $0.19209 per kWh per month for all metered onpeak kWh
  Offpeak $0.05999 per kWh per month for all metered offpeak kWh

3. If the higher of (a) the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW:

(a) Customers meeting these requirements are not eligible to enter the GSA-TOU pilot program. The TDGSA and TDMSA (if qualified) rates are available as Time-Of-Use alternatives at this level of demand.

(b) If customer's demand rises above 1,000 kW while participating in the GSA-TOU pilot program, the customer will be removed from the pilot and billed under General Power Rate - Schedule GSA.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Onpeak and Offpeak Hours

All hours stated in Eastern Prevailing time

Weekdays (Monday - Friday)
  Onpeak 2 p.m. to 8 p.m. calendar months April through October
  5 a.m. to 11 a.m. calendar months November through March
  Offpeak All other hours

Weekends and Holidays*
  All hours Offpeak
  *Holidays include:
  New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day

Determination of Demand

KUB shall meter the demands in kW of all customers served under the GSA-TOU rate schedule. The Metered Demand for any month shall be the highest average during any 30-minute-consecutive period of the month of the load metered in kW. The Measured Demand for any month shall be the higher of (a) or (b) below:

The Billing Demand for any month shall be **the higher of** the following:

(a) Metered Demand
(b) 85 percent of the load in kVA
(c) 30 percent of the higher of the currently effective contract demand or the highest billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule shall not be less than the sum of (a) the customer charge, (b) the demand charge, as adjusted, applied to the customer's billing demand, and (c) the energy charges, as adjusted, applied to the customer's energy takings.

KUB may require minimum bills higher than those stated above.

Contract Requirements

At its sole discretion, KUB may require contracts for service provided under this rate schedule and such contracts shall be for an initial term of at least one year. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single – Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery and metering point, and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery and metering point at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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OUTDOOR LIGHTING RATE - SCHEDULE LS

Availability

Available for service to street and park lighting systems, traffic signal systems, athletic field lighting installations, and outdoor lighting for individual customers.

Service under this schedule is for a term of not less than one year.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

PART A - CHARGES FOR STREET AND PARK LIGHTING SYSTEMS, TRAFFIC SIGNAL SYSTEMS, AND ATHLETIC FIELD LIGHTING INSTALLATIONS

I. Energy Charge:

Summer Period -	$0.08005 per kWh per month
Winter Period -	$0.08005 per kWh per month
Transition Period -	$0.08005 per kWh per month

II. Facility Charge

The annual facility charge shall be 15.89 percent of the installed cost to KUB's electric system of the facilities devoted to street and park lighting service specified in this Part A. Such installed cost shall be recomputed on July 1 of each year, or more often if substantial changes in the facilities are made. Each month, one-twelfth of the then total annual facility charge shall be billed to the customer. If any part of the facilities has not been provided at the electric system's expense or if the installed cost of any portion thereof is reflected on the books of another municipality or agency or department, the annual facility charge shall be adjusted to reflect properly the remaining cost to be borne by the electric system.

Traffic signal systems and athletic field lighting installations shall be provided, owned, and maintained by and at the expense of the customer, except as KUB may agree otherwise in accordance with the provisions of the paragraph next following in this Section II. The facilities necessary to provide service to such systems and installations shall be provided by and at the expense of KUB's electric system, and the annual facility charge provided for first above in this Section II shall apply to the installed cost of such facilities.

When so authorized by policy duly adopted by the Board, traffic signal systems and athletic field lighting installations may be provided, owned, and maintained by KUB's electric system for the customer's benefit. In such cases KUB may require reimbursement from the customer for a portion of the initial installed cost of any such system or installation and shall require payment by the customer of a facility charge sufficient to cover all of KUB's costs (except reimbursed costs), including appropriate overheads, of providing, owning, and maintaining such system or installation; provided that, for athletic field lighting installations, such facility charge shall be 14.74 percent per year of such costs. Said facility charge shall be in addition to the annual facility charge on the facilities necessary to provide service to such system or installation as provided for in the preceding paragraph. Replacement of lamps and related glassware for traffic signal systems and athletic field lighting installations provided under this paragraph shall be paid for under the provisions of paragraph A in section IV.

III. Customer Charge – Traffic Signal Systems and Athletic Field Lighting Installations.

IV. KUB shall apply a uniform monthly customer charge of $2.50 for service to each traffic signal system or athletic field lighting installation.

V. Replacement of Lamps and Related Glassware – Street and Park Lighting
Customer shall be billed and shall pay for replacements as provided in paragraph A below, which shall be applied to all service for street and park lighting.

(a) KUB shall bill the customer monthly for such replacements during each month at KUB's cost of materials, including appropriate storeroom expense.

(b) KUB shall bill the customer monthly for one-twelfth of the amount by which KUB's cost of materials, including appropriate storeroom expenses, exceeds the products of 3 mills multiplied by the number of kilowatt-hours used for street and park lighting during the fiscal year immediately preceding the fiscal year in which such month occurs.

Metering

For any billing month or part of such month in which the energy is not metered or for which a meter reading is found to be in error or a meter is found to have failed, the energy for billing purposes for that billing month or part of such month shall be computed from the rated capacity of the lamps (including ballast) plus 5 percent of such capacity to reflect secondary circuit losses, multiplied by the number of hours of use.

Revenue and Cost Review

KUB's costs of providing service under Part A of this rate schedule are subject to review at any time to determine if KUB's revenues from the charges being applied are sufficient to cover its costs. (Such costs, including applicable overheads, include, but are not limited to, those incurred in the operation and maintenance of the systems provided and those resulting from depreciation and payments for taxes, tax equivalents and interest). If any such review discloses that revenues are either less or more than sufficient to cover said costs, the Board shall revise the above facility charges so that revenues will be sufficient to cover said costs.

PART B - CHARGES FOR OUTDOOR LIGHTING FOR INDIVIDUAL CUSTOMERS

Charges Per Fixture Per Month

	Lamp Size		Rated	Facility	Total Lamp
(a) Type of Fixture	(Watts)	(Lumens)	kWh	Charge	Charge
Mercury Vapor or Incandescent*	175	7,650	70	$4.97	$10.57
	400	19,100	155	6.94	19.35
	1,000**	47,500	378	11.10	41.36
High Pressure Sodium	100	8,550	42	$4.97	$ 8.33
	250	23,000	105	5.89	14.30
	400	45,000	165	6.94	20.15
	1,000**	126,000	385	11.10	41.92
Decorative	100	8,550	42	$5.66	$9.02

* Mercury Vapor and Incandescent fixtures not offered for new service.
** 1,000 watt fixtures not offered for new service.

Light-Emitting Diode (LED) options provided through Schedule LED

(b) Energy Charge: For each lamp size under (a) above,
Summer Period - $0.08005 per kWh per month
Winter Period - $0.08005 per kWh per month
Transition Period - $0.08005 per kWh per month

Additional Facilities

The above charges in this Part B are limited to service from a photoelectrically controlled standard lighting fixture installed on a pole already in place. If the customer wishes to have the fixture installed at a location other than on a pole already in place, the customer shall pay an additional monthly charge of $5.00 per pole for additional poles required to serve the fixture from KUB's nearest available source. (This section does not apply to Decorative Lighting Fixtures).

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Lamp Replacements

Replacements of lamps and related glassware will be made in accordance with replacement policies of KUB.

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Special Outdoor Lighting Installations

When so authorized by policy duly adopted by the Board, special outdoor lighting installations (other than as provided for under Parts A and B above) may be provided, owned, and maintained by KUB's electric system. In such cases, KUB may require reimbursement from the customer for a portion of the initial installed cost of any such installation and shall require payment by the customer of monthly charges sufficient to cover all of KUB's costs (except reimbursed costs), including appropriate overheads of providing, owning, and maintaining such installations, and making lamp replacements.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

GENERAL POWER RATE SCHEDULE TDGSA

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 1,000 kW but not more than 5,000 kW for electric service to commercial, industrial, and governmental customers, and to institutional customers, including, without limitation, churches, clubs, fraternities, orphanages, nursing homes, rooming or boarding houses, and like customers, provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

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Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period - Onpeak Demand is $10.98 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.89 per kW per month of the customer's maximum billing demand plus
Excess Demand is $17.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $10.02 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.89 per kW per month of the customer's maximum billing demand plus
Excess Demand is $16.91 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $10.02 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.89 per kW per month of the customer's maximum billing demand plus
Excess Demand is $16.91 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is $0.10612 per kWh per month for all metered onpeak kWh, plus
Offpeak
Block 1 $0.07253 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
Block 2 $0.02993 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02689 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.09079 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.07550 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02993 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02689 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.07670 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.07670 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02993 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02689 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01577 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours;

provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

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Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

GENERAL POWER RATE SCHEDULE GSB

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 5,000 kW but not more than 15,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period -

- Onpeak Demand is $10.78 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $6.16 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $16.94 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -

- Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $6.16 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $15.98 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period -

- Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $6.16 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $15.98 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period -

- Onpeak is $0.08337 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05866 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02437 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02099 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.07210 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.06086 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02437 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02099 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05834 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05834 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02437 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02099 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01536 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

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Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

GENERAL POWER RATE SCHEDULE GSC

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 15,000 kW but not more than 25,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period - Onpeak Demand is $10.78 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.04 per kW per month of the customer's maximum billing demand plus
Excess Demand is $16.82 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period - Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.04 per kW per month of the customer's maximum billing demand plus
Excess Demand is $15.86 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus
Maximum Demand is $6.04 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.86 per kW per month for each kW of the amount, if any, by which (1) the customer’s onpeak billing demand exceeds its onpeak contract demand or (2) the customer’s offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is $0.08328 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05857 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02428 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02090 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.07201 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.06077 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02428 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02090 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05825 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05825 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02428 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02090 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01536 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

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Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

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Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

GENERAL POWER RATE SCHEDULE GSD

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where the higher of a customer's currently effective onpeak or offpeak contract demand is greater than 25,000 kW; provided that the other conditions of this section are met.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period -
- Onpeak Demand is $10.78 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $5.91 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $16.69 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -
- Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $5.91 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.73 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.82 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $5.91 per kW per month of the customer's maximum billing demand plus

Excess Demand is $15.73 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is $0.08319 per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> is $0.05848 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> is $0.02305 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> is $0.02081 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.07192 per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> $0.06068 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> $0.02305 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> $0.02081 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05816 per kWh per month for all metered onpeak kWh, plus

Offpeak

<u>Block 1</u> $0.05816 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> $0.02305 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> $0.02081 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01536 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

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Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW; (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least five years; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than sixteen months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

MANUFACTURING SERVICE RATE SCHEDULE TDMSA

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 1,000 kW but not more than 5,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

- Summer Period -
    - Onpeak Demand is $10.27 per kW per month of the customer's onpeak billing demand, plus
    - Maximum Demand is $5.22 per kW per month of the customer's maximum billing demand plus
    - Excess Demand is $15.49 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher
- Winter Period -
    - Onpeak Demand is $9.30 per kW per month of the customer's onpeak billing demand, plus
    - Maximum Demand is $5.22 per kW per month of the customer's maximum billing demand plus
    - Excess Demand is $14.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher
- Transition Period -
    - Onpeak Demand is $9.30 per kW per month of the customer's onpeak billing demand, plus
    - Maximum Demand is $5.22 per kW per month of the customer's maximum billing demand plus
    - Excess Demand is $14.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

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Energy Charge:

Summer Period - Onpeak is $0.08108 per kWh per month for all metered onpeak kWh, plus

Offpeak

- Block 1 $0.05601 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 2 $0.02850 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 3 $0.02595 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.06963 per kWh per month for all metered onpeak kWh, plus

Offpeak

- Block 1 $0.05824 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 2 $0.02850 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 3 $0.02595 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05913 per kWh per month for all metered onpeak kWh, plus

Offpeak

- Block 1 $0.05913 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 2 $0.02850 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus
- Block 3 $0.02595 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01577 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

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Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer’s onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer’s maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer’s onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

MANUFACTURING SERVICE RATE SCHEDULE MSB

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 5,000 kW but not more than 15,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:

Summer Period -

Onpeak Demand is $10.15 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $3.23 per kW per month of the customer's maximum billing demand plus

Excess Demand is $13.38 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -

Onpeak Demand is $9.19 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $3.23 per kW per month of the customer's maximum billing demand plus

Excess Demand is $12.42 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period - Onpeak Demand is $9.19 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $3.23 per kW per month of the customer's maximum billing demand plus

Excess Demand is $12.42 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is $0.07595 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05116 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02171 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.01919 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.06465 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05338 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02171 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.01919 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05424 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05424 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02171 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.01919 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01523 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

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Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of any kW in excess of 5,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

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Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

MANUFACTURING SERVICE RATE SCHEDULE MSC

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 15,000 kW but not more than 25,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.

Administrative Charge: $700 per delivery point per month.

Demand Charge:

Summer Period -

- Onpeak Demand is $10.15 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $3.11 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $13.26 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Winter Period -

- Onpeak Demandis $9.19 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $3.11 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $12.30 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period -

- Onpeak Demand is $9.19 per kW per month of the customer's onpeak billing demand, plus
- Maximum Demand is $3.11 per kW per month of the customer's maximum billing demand plus
- Excess Demand is $12.30 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period -

- Onpeak is $0.07475 per kWh per month for all metered onpeak kWh, plus

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Offpeak

Block 1 $0.04995 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02302 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02302 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak is $0.06343 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05216 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02302 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02302 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.05302 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.05302 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02302 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.02302 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01523 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, and (3) 50 percent of any kW in excess of 25,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered

Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least one year; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than four months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

MANUFACTURING SERVICE RATE SCHEDULE MSD

Availability

This rate, subject to availability from TVA, shall be available for firm electric power requirements where (a) a customer's currently effective onpeak or offpeak contract demand, whichever is higher, is greater than 25,000 kW, and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.

Prior to initially taking any service under this schedule, and from time to time thereafter as may be required by KUB, a customer shall certify to KUB that it meets the requirements set forth in condition (b) above. The certification form to be used shall be furnished by KUB to the customer, and signed and promptly returned by the customer to KUB. Further, such customer shall promptly certify any change in the status of any of the information contained in the certification form.

Service during any period for which a customer does not meet the eligibility requirements set forth in condition (b) above will be made available by KUB under, and billed in accordance with, the applicable General Power schedule.

For a customer requesting that its onpeak contract demand be different from its offpeak contract demand, this rate schedule shall be available only for (1) a new contract, (2) a replacement or renewal contract following expiration of the existing contract, or (3) a replacement or renewal contract or an amended existing contract in which the customer is increasing its demand requirements above the existing contract demand level, but under this item (3) neither the new onpeak nor the new offpeak contract demand shall be lower than the customer's existing contract demand.

Prior to participation in this rate, contract amendments may be required for continued participation in certain other programs and rate overlays as determined at KUB's sole discretion.

Character of Service

Alternating current, single or three-phase, 60 hertz. Power shall be delivered at a transmission voltage of 161 kV or, if such transmission voltage is not available, at the highest voltage available in the vicinity, unless at the customer's request a lower standard voltage is agreed upon.

Base Charges

Customer Charge: $1,500 per delivery point per month.
Administrative Charge: $700 per delivery point per month.
Demand Charge:
  Summer Period - Onpeak Demand is $10.15 per kW per month of the customer's onpeak billing demand, plus
    Maximum Demand is $2.68 per kW per month of the customer's maximum billing demand plus
    Excess Demand is $12.83 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher
  Winter Period - Onpeak Demand is $9.19 per kW per month of the customer's onpeak billing demand, plus
    Maximum Demand is $2.68 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Transition Period: - Onpeak Demand is $9.19 per kW per month of the customer's onpeak billing demand, plus

Maximum Demand is $2.68 per kW per month of the customer's maximum billing demand plus

Excess Demand is $11.87 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher

Energy Charge:

Summer Period - Onpeak is $0.07134 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.04655 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02020 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.01961 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Winter Period - Onpeak $0.06003 per kWh per month for all metered onpeak kWh, plus

Offpeak

Block 1 $0.04875 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 2 $0.02020 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

Block 3 $0.01961 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

Transition Period - Onpeak is $0.04962 per kWh per month for all metered onpeak kWh, plus

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Offpeak

<u>Block 1</u> $0.04962 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 2</u> $0.02020 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to total energy, plus

<u>Block 3</u> $0.01961 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01523 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Facilities Rental Charge

There shall be no facilities rental charge under this rate schedule for delivery at bulk transmission voltage levels of 161kV or higher. For delivery at less than 161kV, there shall be added to the customer's bill a facilities rental charge. This charge shall be 37 cents per kW per month except for delivery at voltages below 46 kV, in which case the charge shall be 97 cents per kW per month for the first 10,000 kW and 76 cents per kW per month for the excess over 10,000 kW. Such charge shall be applied to the higher of (1) the highest billing demand established during the latest 12-consecutive-month period or (2) the higher of the customer's currently effective onpeak or offpeak contract demand and shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Reactive Demand Charge

If the reactive demand (in kVAR) is lagging during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's highest metered demand occurs, there shall be added to the customer's bill a reactive charge of $1.46 per kVAR of the amount, if any, by which the reactive demand exceeds 33 percent of such metered demand. If the reactive demand (in kVAR) is leading during the 30-consecutive-minute period beginning or ending on a clock hour of the month in which the customer's lowest metered demand (excluding any metered demands which are less than 25 percent of the highest metered demand) occurs, there shall be added to the customer's bill a reactive charge of $1.14 per kVAR of the amount of reactive demand. Such charges shall be in addition to all other charges under this rate schedule, including minimum bill charges.

Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months. The Seasonal Periods under this rate schedule are subject to change by KUB. In the event KUB determines that changed Seasonal Periods are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed periods, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Hours

Except for Saturdays, Sundays, November 1, and the weekdays that are observed as Federal holidays for New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, onpeak hours for each day shall for purposes of this rate schedule be 1 p.m. to 7 p.m. during the months of April, May, June, July, August, September and October and from 4 a.m. to 10 a.m. during the months of January, February, March, November, and December. All other hours of each day that are not otherwise defined as onpeak hours and all hours of such excepted days shall be offpeak hours. Such times shall be Central Standard Time or Central Daylight Time, whichever is then in effect. Said onpeak and offpeak hours are subject to change by KUB. In the event KUB determines that such changed onpeak and offpeak hours are appropriate, such decision shall be made at least 11 months prior to the effective date of such changed hours, and KUB shall promptly notify customer.

Determination of Onpeak and Offpeak Demands,
Maximum Metered Demand, and Energy Amounts

The onpeak and offpeak kWh for any month shall be the energy amounts taken during the respective hours of the month designated under this rate schedule as onpeak and offpeak hours; provided, however, that notwithstanding the metered energy amount, the offpeak energy for any month shall in no case be less than the product of (1) the offpeak billing demand as calculated in the last sentence of the paragraph below and (2) 110 hours (reflecting a 15 percent load factor applied to the average number of hours in a month).

KUB shall meter the onpeak and offpeak demands in kW of all customers taking service under this rate schedule. The onpeak metered demand and offpeak metered demand for any month shall be determined separately for the respective hours of the month designated under this rate schedule as onpeak and offpeak hours and in each case shall be the highest average during any 30-consecutive-minute period beginning or ending on a clock hour of the month of the load metered in kW, and, except as provided below in this section, such amounts shall be used as the onpeak and offpeak billing demands.

The maximum billing demand for any month shall be the higher of (1) the highest onpeak billing demand in the month or (2) the highest offpeak billing demand in the month. The onpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW and (2) 40 percent of the next 20,000 kW (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective onpeak contract demand or the highest onpeak billing demand established during the preceding 12 months. The offpeak billing demand shall in no case be less than the sum of (1) 30 percent of the first 5,000 kW, (2) 40 percent of the next 20,000 kW, (3) 50 percent of the next 25,000 kW, (4) 60 percent of the next 50,000 kW, and (5) 70 percent of the next 100,000 kW, (6) 80 percent of the next 150,000 kW, and (7) 85 percent of all kW in excess of 350,000 kW of the higher of the currently effective offpeak contract demand or the highest offpeak billing demand established during the preceding 12 months.

Minimum Bill

The monthly bill under this rate schedule, excluding any facilities rental charges and any reactive charges, shall not be less than the sum of (1) the base customer charge and administrative charge, (2) the portion of the base demand charge, as adjusted (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to onpeak billing demand applied to the customer's onpeak billing demand, (3) the portion of the base demand charge, as adjusted, (but excluding the additional portion thereof applicable to excess of billing demand over contract demand) applicable to maximum billing demand applied to the customer's maximum billing demand, (4) the base onpeak energy charge, as adjusted, applied to the customer's onpeak energy takings, and (5) the base offpeak energy charge, as adjusted, applied to the higher of customer's actual offpeak energy takings or the minimum offpeak energy takings amount provided for in the first paragraph of the section of this rate schedule entitled "Determination of Onpeak and Offpeak Demands, Maximum Metered Demand, and Energy Amounts". Notwithstanding the foregoing, any fuel cost that is included in *any purchased power adjustment adopted by the Board* shall not be applied to any billed offpeak energy that exceeds the metered offpeak energy.

KUB may require minimum bills higher than those stated above.

Contract Requirement

KUB shall require contracts for all service provided under this rate schedule. The contract shall be for an initial term of at least five years and any renewals or extensions of the initial contract shall be for a term of at least five years; after ten years of service, any such contract for the renewal or extension of service may provide for termination upon not less than sixteen months notice. The customer shall contract for its maximum requirements, which shall not exceed the amount of power capable of being used by customer, and KUB shall not be obligated to supply power in greater amount at any time than the customer's currently effective onpeak or offpeak contract demand. If the customer uses any power other than that supplied by KUB under this rate schedule, the contract may include other special provisions. The rate schedule in any power contract shall be subject to adjustment, modification, change, or replacement from time to time as approved by the Board.

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Single Point Delivery

The charges under this rate schedule are based upon the supply of service through a single delivery point and at a single voltage. If service is supplied to the same customer through more than one point of delivery or at different voltages, the supply of service at each delivery point and at each different voltage shall be separately metered and billed.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

LIGHT-EMITTING DIODE (LED) OUTDOOR LIGHTING RATE – SCHEDULE LED

Availability

Available for LED outdoor lighting service to individual customers. Service under this schedule is for a term of not less than one year.

Determination of Seasonal Periods

Summer Period shall mean the June, July, August, and September billing months. Winter Period shall mean the December, January, February, and March billing months. Transition Period shall mean the April, May, October, and November billing months.

Charges per Fixture Per Month

Lamp Size	Rated kWh	Facility Charge	Total Lamp Charge
100 WE	21	$5.72	$ 7.40
250 WE	58	7.07	11.71
400 WE	79	9.72	16.04

Energy Charge: For each lamp size under (a) above,

Summer Period -	$0.08005 per kWh per month
Winter Period -	$0.08005 per kWh per month
Transition Period -	$0.08005 per kWh per month

Additional Facilities

The above charges are limited to service installed on a pole already in place. If the customer wishes to have the fixture installed at a location other than on a pole already in place, the customer shall pay an additional monthly charge of $5.00 per pole for additional poles required to serve the fixture from KUB's nearest available source.

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Adjustment

Charges under this rate schedule may be increased or decreased to reflect changes in purchased power costs as determined by any purchased power adjustment adopted by the Board.

Lamp Replacements

Replacements of lamps and related glassware will be made in accordance with replacement policies of KUB.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

TWO-PART REAL TIME PRICING (RTP)

Availability

KUB provides Two-Part Real Time Pricing (Two-Part RTP) to qualified general power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

Two-Part RTP shall be made available to qualified general power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

Charges for Two-Part RTP

KUB Administrative Charge:	$350.00 per month

All other Two-Part RTP charges including TVA Administrative Charges shall be established in accordance with the Contract.

Interruptibility

Two-Part RTP furnished to a customer under the Contract may be subject to interruption and to suspension of availability as provided for in the Contract.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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INTERRUPTIBLE POWER 5 (IP5)

Availability

KUB provides Interruptible Power 5 (IP5) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

IP5 shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

Charges for IP5

KUB Administrative Charge:	$350.00 per month

All other IP5-related charges including TVA Administrative Cost Charges shall be established in accordance with the Contract.

Interruptibility

IP5 furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

INTERRUPTIBLE POWER 30 (IP30)

Availability

KUB provides Interruptible Power 30 (IP30) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

IP30 shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

Charges for IP30

KUB Administrative Charge:	$350.00 per month

All other IP30-related charges including TVA Administrative Cost Charges shall be established in accordance with the Contract.

Interruptibility

IP30 furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

START-UP AND TESTING POWER (STP)

Availability

KUB provides Start-up and Testing Power (STP) to qualified power users through its wholesale power supplier, the Tennessee Valley Authority (TVA), in accordance with the power supply contract between KUB and TVA.

STP shall be made available to qualified power users pursuant to specific contractual arrangements between KUB and the customer (such contractual arrangements may be contained in one or more written instruments and are hereinafter sometimes referred to as the "Contract").

Charges for STP

KUB Administrative Charge:	$350.00 per month

All other STP-related charges including TVA Administrative Cost Charges shall be established in accordance with the Contract.

Interruptibility

STP furnished to a customer under the Contract shall be subject to interruption and to suspension of availability as provided for in the Contract.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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HISTORIC CAPITALIZATION AND CUSTOMERS

Electric Division Capitalization - Historic

	Fiscal Year	(Net Assets) Accumulated Earnings	Revenue Bonds	Revenue Notes	Total Capitalization	Debt as % of Capitalization
Historical	2016	$ 334,567,844	$ 237,985,000	$ -	$ 572,552,844	41.57%
	2017	$ 345,253,775	$ 265,795,000	$ -	$ 611,048,775	43.50%
	2018	$ 365,015,374	$ 294,450,000	$ -	$ 659,465,374	44.65%
	2019	$ 385,047,671	$ 322,170,000	$ -	$ 707,217,671	45.55%
	2020	$ 411,744,518	$ 305,835,000	$ -	$ 717,579,518	42.62%

Electric Division Customers - Historic

(Measured by Bills Rendered)

Historical Number of Customers	2016	2017	2018	2019	2020
Residential	179,100	181,268	182,415	184,819	186,052
Small Commercial and Industrial	19,454	19,507	19,662	19,843	20,029
Large Commercial and Industrial	2,864	2,863	2,832	2,766	2,716
Outdoor Lighting	1,425	1,450	1,524	1,554	1,596
Total	**202,843**	**205,088**	**206,433**	**208,982**	**210,393**

Historic Electric Division Use

The following table shows historical figures for Knox County's population, the Electric Division's number of customers, and electric sales.

Fiscal Year	Knox Co. Population	Number of Customers	Total Sales MWh
1995	357,447	160,893	4,703,769
2000	382,032	177,201	5,210,716
2010	432,226	197,299	5,587,374
2016	456,132	202,843	5,350,657
2017	461,860	205,088	5,365,394
2018	465,289	206,433	5,446,959
2019	470,313	208,982	5,394,429
2020	470,313	210,393	5,271,869

KNOXVILLE UTILITIES BOARD
ELECTRIC DIVISION
CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
for the years ending on June 30

	2016	2017	2018	2019	2020
Operating Revenues:	$ 521,369,202	$ 546,364,012	$ 560,110,507	$ 558,369,583	$ 547,686,983
Operating Expenses:					
Purchased power	$ 402,603,523	$ 421,726,756	$ 425,841,567	$ 417,674,655	$ 398,229,905
Distribution	33,062,072	36,525,681	35,019,674	35,539,679	39,928,275
Customer service	6,589,446	6,641,176	6,123,651	7,160,178	6,186,221
Administrative and general	14,856,340	15,522,227	13,172,673	18,843,502	18,764,049
Provision for depreciation	29,490,370	31,450,260	35,430,800	31,991,227	29,994,212
Taxes and tax equivalents	15,794,474	16,907,995	17,699,792	18,710,928	18,332,928
Total Operating Expenses	$ 502,396,225	$ 528,774,095	$ 533,288,157	$ 529,920,169	$ 511,435,590
Operating Income	$ 18,972,977	$ 17,589,917	$ 26,822,350	$ 28,449,414	$ 36,251,393
Non-Operating Revenues / Expenses:					
Contribution in aid of Construction	$ 1,632,730	$ 1,773,994	$ 2,100,439	$ 3,175,023	$ 2,063,288
Interest and dividend income	549,060	899,405	1,635,170	2,666,532	1,579,182
Interest Expense	(9,257,913)	(9,954,448)	(10,692,299)	(11,704,490)	(11,647,959)
Plant Costs Recovered	(1,632,730)	(1,773,994)	(2,100,439)	(3,175,023)	(2,063,288)
Other	437,959	730,696	(294,508)	500,124	345,222
Total Non-Operating	$ (8,270,894)	$ (8,324,347)	$ (9,351,637)	$ (8,537,834)	$ (9,723,555)
Change in Net Position before Capital Contributions	$ 10,702,083	$ 9,265,570	$ 17,470,713	$ 19,911,580	$ 26,527,838
Capital Contributions	178,396	1,420,361	119,992	120,717	169,009
Change in Net Position	$ 10,880,479	$ 10,685,931	$ 17,590,705	$ 20,032,297	$ 26,696,847
Beginning of Period	$ 323,687,365	$ 334,567,844	$ 345,253,775	$ 365,015,374	$ 385,047,671
Adjustment	-	-	2,170,894	-	-
Net Position					
End of period	**$ 334,567,844**	**$ 345,253,775**	**$ 365,015,374**	**$ 385,047,671**	**$ 411,744,518**

Source: The above amounts have been derived from the Annual Audited Financial Statements of the Knoxville Utilities Board - Electric Division and the Board's internal financial records should be read in conjunction therewith.

KNOXVILLE UTILITIES BOARD
ELECTRIC DIVISION
OPERATING STATISTICS
for the Fiscal Years ended on June 30

Revenues:	**2016**	**2017**	**2018**	**2019**	**2020**
Residential	$ 234,748,373	$ 251,523,417	$ 259,179,059	$ 262,794,531	$ 259,850,828
Commercial	44,633,880	47,499,537	49,106,584	51,063,329	50,563,343
Industrial	221,132,641	228,728,437	227,302,729	229,155,656	217,185,900
Outdoor Lighting	8,585,438	9,082,469	8,981,113	6,890,780	5,834,487
Total Sales Revenues	$ 509,100,332	$ 536,833,860	$ 544,569,485	$ 549,904,296	$ 533,434,558
Other Revenues	12,268,870	9,530,152	15,541,022	8,465,287	14,252,425
Total Revenues	$ 521,369,202	$ 546,364,012	$ 560,110,507	$ 558,369,583	$ 547,686,983
Electric Usage - MWh:					
Residential	2,341,289	2,396,248	2,476,886	2,476,757	2,443,183
Commercial	385,756	393,907	402,426	405,893	396,722
Industrial	2,564,889	2,515,987	2,509,166	2,458,808	2,394,484
Outdoor Lighting	58,723	59,252	58,481	52,971	37,480
Total Electric Usage	5,350,657	5,365,394	5,446,959	5,394,429	5,271,869
Number of Customers:					
Residential	179,100	181,268	182,415	184,819	186,052
Commercial	19,454	19,507	19,662	19,843	20,029
Industrial	2,864	2,863	2,832	2,766	2,716
Outdoor Lighting	1,425	1,450	1,524	1,554	1,596
Total Customers	202,843	205,088	206,433	208,982	210,393
Purchased Power:					
MWh	5,545,940	5,472,817	5,654,388	5,545,119	5,439,712
Total Cost	$ 402,603,523	$ 421,726,756	$ 425,841,567	$ 417,674,655	$ 398,229,905
Wholesale Power Cost as % of Sales	79.08%	78.56%	78.20%	75.95%	74.65%
Electric System Peak (kW)	1,328,313	1,328,313	1,328,313	1,328,313	1,328,313

OPERATING AND FINANCIAL HISTORY OF THE ELECTRIC DIVISION

Sales in MWh

Fiscal Year	Residential	Commercial	Industrial	Outdoor Lighting	Total
2011	2,603,859	396,768	2,615,431	58,597	5,674,655
2012	2,344,358	385,345	2,609,259	58,154	5,397,117
2013	2,436,697	395,642	2,566,669	57,976	5,456,984
2014	2,499,987	408,581	2,569,046	57,616	5,535,230
2015	2,505,079	402,268	2,571,186	57,775	5,536,308
2016	2,341,289	385,756	2,564,889	58,723	5,350,657
2017	2,396,248	393,907	2,515,987	59,252	5,365,394
2018	2,476,886	402,426	2,509,166	58,481	5,446,959
2019	2,476,757	405,893	2,458,808	52,971	5,394,429
2020	2,443,183	396,722	2,394,484	37,480	5,271,869

Total Operating Revenue

Fiscal Year	Residential	Commercial	Industrial	Outdoor Lighting	Other	Total
2011	$ 246,186,288	$ 43,080,853	$ 219,150,525	$ 7,791,710	$ 5,372,583	$ 521,581,959
2012	$ 224,870,899	$ 42,262,802	$ 219,674,054	$ 7,819,998	$ 11,426,034	$ 506,053,787
2013	$ 244,493,773	$ 45,486,773	$ 227,250,089	$ 8,231,980	$ 9,425,591	$ 534,888,206
2014	$ 242,439,020	$ 45,892,309	$ 220,298,930	$ 8,153,718	$ 11,048,814	$ 527,832,790
2015	$ 247,635,642	$ 45,928,833	$ 222,500,328	$ 8,371,010	$ 8,770,032	$ 533,205,845
2016	$ 234,748,373	$ 44,633,880	$ 221,132,641	$ 8,585,438	$ 12,268,870	$ 521,369,202
2017	$ 251,523,417	$ 47,499,537	$ 228,728,437	$ 9,082,469	$ 9,530,152	$ 546,364,012
2018	$ 259,179,059	$ 49,106,584	$ 227,302,729	$ 8,981,113	$ 15,541,022	$ 560,110,507
2019	$ 262,794,531	$ 51,063,329	$ 229,155,656	$ 6,890,780	$ 8,465,287	$ 558,369,583
2020	$ 259,850,828	$ 50,563,343	$ 217,185,900	$ 5,834,487	$ 14,252,425	$ 547,686,983

Growth Rates for Key Operating Data

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Number of Customers	0.99%	1.11%	0.66%	1.23%	0.67%
Total Sales (MWh)	-3.35%	0.28%	1.52%	-0.96%	-2.27%
Total Operating Revenues	-2.22%	4.79%	2.52%	-0.31%	-1.91%

TEN LARGEST ELECTRIC SYSTEM CUSTOMERS - 2020

The ten largest Electric System customers, as of June 30, 2020, in order of total sales generated are listed below. Those ten electric customers represent 12.81% of the total electric sales based on revenue and 17.64% of the total electric sales based on sales volume.

	Customer	Consumption MWh	Electric Sales Revenue	Percent of Sales Revenue
1.	University of Tennessee	223,390	$ 18,124,565	3.40%
2.	CMC Steel US LLC	282,290	12,313,372	2.31%
3.	Knox County Schools	50,552	7,185,015	1.35%
4.	KUB	68,494	6,725,821	1.26%
5.	Cemex Inc	97,087	5,426,231	1.02%
6.	University Health Systems Inc	74,131	5,395,023	1.01%
7.	Public Building Authority	37,074	3,819,369	0.72%
8.	K-VA-T Food Stores Inc	36,245	3,490,506	0.65%
9.	Parkwest Medical	31,173	2,948,686	0.55%
10.	Walmart	29,478	2,881,334	0.54%
	TOTAL	**929,914**	**68,309,922**	**12.81%**

Total Electric Sales Revenue		$ 533,434,558
Top 10 as Percent of Total Electric Sales Revenue		12.81%
Total Electric Sales Volume (MWh)	5,271,869	
Top 10 as Percent of Total Electric Sales Volume	17.64%	

KNOXVILLE UTILITIES BOARD
ELECTRIC DIVISION
BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Electric Division.

Amount Issued	Series	Due Date	Interest Rates	Outstanding Debt (1) and (2) As of June 30, 2020
$ 30,000,000 (3)	Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds)	07-01-20	Fixed	$ 1,425,000
36,815,000	Electric System Revenue Refunding Bonds, Series AA-2012	07-01-29	Fixed	22,880,000
35,000,000	Electric System Revenue Bonds, Series BB-2012	07-01-42	Fixed	30,375,000
9,660,000	Electric System Revenue Refunding Bonds, Series CC-2013	07-01-31	Fixed	7,585,000
40,000,000	Electric System Revenue Bonds, Series DD-2014	07-01-44	Fixed	36,325,000
28,550,000	Electric System Revenue Refunding Bonds, Series EE-2015	07-01-29	Fixed	25,900,000
35,000,000	Electric System Revenue Bonds, Series FF-2015	07-01-45	Fixed	32,150,000
40,000,000	Electric System Revenue Bonds, Series GG-2016	07-01-46	Fixed	37,550,000
23,445,000	Electric System Revenue Refunding Bonds, Series HH-2017	07-01-27	Fixed	19,510,000
40,000,000	Electric System Revenue Bonds, Series II-2017	07-01-47	Fixed	38,535,000
39,995,000	Electric System Revenue Bonds, Series JJ-2018	07-01-47	Fixed	39,220,000
14,380,000	Electric System Revenue Refunding Bonds, Series KK-2020	07-01-30	Fixed	14,380,000
$ 372,845,000	**TOTAL DEBT**			$ 305,835,000
$ 70,180,000	Electric System Revenue Refunding Bonds, Series LL-2021	07-01-44	Fixed	$ 70,180,000
(121,475,000)	Less: Bonds Being Refunded (Series AA-2012 & BB-2012 & CC-2013 & DD-2014)			(86,415,000)
$ 321,550,000	**TOTAL INDEBTEDNESS**			$ 289,600,000

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The Electric System paid $14,185,000 of principal and $5,610,117.51 of interest on July 1, 2020 (Excludes Build America Bonds Rebate) for the Fiscal Year Ending June 30, 2021.

(3) The original federal subsidy of 35.0% on the Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds) has been reduced by 5.9% for the federal fiscal year ending September 30, 2020 as a result of the sequestration by the Budget Control Act of 2011. The Series KK-2020 Bonds refunded the Series Z-2010 Bonds on May 22, 2020.

KNOXVILLE UTILITIES BOARD
ELECTRIC DIVISION
DEBT SERVICE REQUIREMENTS

Fiscal Year	Outstanding Fiscal Year Debt Service on Bonds as of June 30, 2020			Electric System Revenue Bonds, Series LL-2021			% Principal Repaid on Series LL-2021 Bonds	Less: Bonds Being Refunded or Defeased			TOTAL DEBT SERVICE (1) & (2)				% Principal Repaid on All Debt
	Principal	Interest	Total	Principal	Interest (4)	Total		Principal	Interest	Total	Principal	Interest	Rebate (3)	Total	
2021	$ 14,185,000	$ 10,837,512	$ 25,022,512	$ -	$ -	$ -	0.00%	$ -	$ -	$ -	$ 14,185,000	$ 10,837,512	$ (171,283)	$ 24,851,229	4.90%
2022	14,545,000	9,980,105	24,525,105	-	2,276,190	2,276,190		-	(2,847,981)	(2,847,981)	14,545,000	9,408,314	-	23,953,314	
2023	15,180,000	9,322,105	24,502,105	4,610,000	3,136,450	7,746,450		(5,750,000)	(2,740,156)	(8,490,156)	14,040,000	9,718,399	-	23,758,399	
2024	15,815,000	8,674,180	24,489,180	4,855,000	2,899,825	7,754,825		(5,965,000)	(2,538,106)	(8,503,106)	14,705,000	9,035,899	-	23,740,899	
2025	16,455,000	8,074,830	24,529,830	5,015,000	2,653,075	7,668,075		(6,155,000)	(2,346,681)	(8,501,681)	15,315,000	8,381,224	-	23,696,224	
2026	14,465,000	7,502,324	21,967,324	2,745,000	2,459,075	5,204,075	24.54%	(3,745,000)	(2,191,925)	(5,936,925)	13,465,000	7,769,474	-	21,234,474	29.78%
2027	15,010,000	6,937,918	21,947,918	2,890,000	2,318,200	5,208,200		(3,890,000)	(2,074,594)	(5,964,594)	14,010,000	7,181,524	-	21,191,524	
2028	15,590,000	6,399,640	21,989,640	2,995,000	2,171,075	5,166,075		(4,050,000)	(1,952,594)	(6,002,594)	14,535,000	6,618,121	-	21,153,121	
2029	13,245,000	5,926,975	19,171,975	3,315,000	2,013,325	5,328,325		(4,200,000)	(1,824,306)	(6,024,306)	12,360,000	6,115,994	-	18,475,994	
2030	13,690,000	5,484,900	19,174,900	3,465,000	1,843,825	5,308,825		(4,375,000)	(1,689,456)	(6,064,456)	12,780,000	5,639,269	-	18,419,269	
2031	9,740,000	5,089,788	14,829,788	2,525,000	1,694,075	4,219,075	46.19%	(3,225,000)	(1,572,294)	(4,797,294)	9,040,000	5,211,569	-	14,251,569	51.44%
2032	8,225,000	4,788,063	13,013,063	3,495,000	1,543,575	5,038,575		(3,335,000)	(1,472,569)	(4,807,569)	8,385,000	4,859,069	-	13,244,069	
2033	7,770,000	4,529,634	12,299,634	2,850,000	1,384,950	4,234,950		(2,700,000)	(1,379,000)	(4,079,000)	7,920,000	4,535,584	-	12,455,584	
2034	8,055,000	4,270,994	12,325,994	2,845,000	1,242,575	4,087,575		(2,825,000)	(1,292,594)	(4,117,594)	8,075,000	4,220,975	-	12,295,975	
2035	8,340,000	4,001,306	12,341,306	2,845,000	1,100,325	3,945,325		(2,950,000)	(1,201,344)	(4,151,344)	8,235,000	3,900,288	-	12,135,288	
2036	8,655,000	3,728,091	12,383,091	2,845,000	972,300	3,817,300	67.39%	(3,075,000)	(1,105,203)	(4,180,203)	8,425,000	3,595,188	-	12,020,188	65.61%
2037	8,970,000	3,448,900	12,418,900	2,845,000	858,500	3,703,500		(3,225,000)	(1,003,625)	(4,228,625)	8,590,000	3,303,775	-	11,893,775	
2038	9,290,000	3,151,813	12,441,813	2,845,000	744,700	3,589,700		(3,350,000)	(896,563)	(4,246,563)	8,785,000	2,999,950	-	11,784,950	
2039	9,610,000	2,843,331	12,453,331	2,845,000	630,900	3,475,900		(3,500,000)	(785,000)	(4,285,000)	8,955,000	2,689,231	-	11,644,231	
2040	9,965,000	2,521,950	12,486,950	2,845,000	517,100	3,362,100		(3,650,000)	(663,875)	(4,313,875)	9,160,000	2,375,175	-	11,535,175	
2041	10,320,000	2,181,088	12,501,088	2,845,000	403,300	3,248,300	87.66%	(3,800,000)	(533,000)	(4,333,000)	9,365,000	2,051,388	-	11,416,388	81.10%
2042	10,680,000	1,826,044	12,506,044	2,845,000	289,500	3,134,500		(3,975,000)	(396,500)	(4,371,500)	9,550,000	1,719,044	-	11,269,044	
2043	11,095,000	1,457,669	12,552,669	2,845,000	175,700	3,020,700		(4,150,000)	(253,875)	(4,403,875)	9,790,000	1,379,494	-	11,169,494	
2044	9,385,000	1,105,788	10,490,788	1,485,000	89,100	1,574,100		(2,225,000)	(136,500)	(2,361,500)	8,645,000	1,058,388	-	9,703,388	
2045	9,710,000	769,544	10,479,544	1,485,000	29,700	1,514,700	100.00%	(2,300,000)	(46,000)	(2,346,000)	8,895,000	753,244	-	9,648,244	
2046	7,665,000	466,969	8,131,969	-	-	-		-	-	-	7,665,000	466,969	-	8,131,969	96.48%
2047	5,995,000	238,963	6,233,963	-	-	-		-	-	-	5,995,000	238,963	-	6,233,963	
2048	4,185,000	70,694	4,255,694	-	-	-		-	-	-	4,185,000	70,694	-	4,255,694	100.00%
	$ 305,835,000	**$ 125,631,113**	**$ 431,466,113**	**$ 70,180,000**	**$ 33,447,340**	**$ 103,627,340**		**$ (86,415,000)**	**$ (32,943,741)**	**$ (119,358,741)**	**$ 289,600,000**	**$ 126,134,712**	**$ (171,283)**	**$ 415,563,430**	

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The Electric System paid $14,185,000 of principal and $5,610,117.51 of interest on July 1, 2020 (Excludes Build America Bonds Rebate of $171,283) for the Fiscal Year Ending June 30, 2021.

(3) The original federal subsidy of 35.0% on the Electric System Revenue Bonds, Series Z-2010 (Federally Taxable Build America Bonds) has been reduced by 5.9% for the federal fiscal year ending September 30, 2020 as a result of the sequestration by the Budget Control Act of 2011. The Series KK-2020 Bonds refunded the Series Z-2010 Bonds on May 22, 2020.

(4) True Interest Cost 1.914%.

KNOXVILLE UTILITIES BOARD
ELECTRIC DIVISION
HISTORICAL DEBT COVERAGE ON OUTSTANDING ELECTRIC SYSTEM BONDS
For the Fiscal Years Ended June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2022) of the Outstanding Bonds and the Series LL-2021 Electric Bonds for June 30, 2016 through June 30, 2020 is set forth below.

	2016	**2017**	**2018**	**2019**	**2020**
Operating revenues	$ 521,369,202	$ 546,364,012	$ 560,110,507	$ 558,369,583	$ 547,686,983
Operating expenses *	(457,111,381)	(480,415,840)	(480,157,565)	(479,218,014)	(463,108,450)
Net income before depreciation & taxes	$ 64,257,821	$ 65,948,172	$ 79,952,942	$ 79,151,569	$ 84,578,533
Other revenue (Net)	549,060	899,405	1,635,170	2,666,532	1,579,182
FICA & Medicare Tax Expense	(1,894,298)	(2,079,439)	(2,156,841)	(2,251,026)	(2,265,718)
Income available for debt service	$ 62,912,583	$ 64,768,138	$ 79,431,271	$ 79,567,075	$ 83,891,997
Actual annual debt service requirements on outstanding bonds	$ 19,192,916	$ 19,959,199	$ 21,318,583	$ 23,535,838	$ 25,456,523
Coverage (Times)	3.28 x	3.25 x	3.73 x	3.38 x	3.30 x
Maximum annual debt service requirements (FY 2022) on Outstanding Bonds and the Series LL-2021 Electric Bonds **	$ 23,953,314	$ 23,953,314	$ 23,953,314	$ 23,953,314	$ 23,953,314
Coverage (Times)	2.63 x	2.70 x	3.32 x	3.32 x	3.50 x

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart. Excludes FY 2021 since principal payments were paid on July 1, 2020.

ELECTRIC DIVISION
REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

Electric Division

Financial Statements and Supplemental Information
June 30, 2020 and 2019

KUB Board of Commissioners

Kathy Hamilton - Chair

Adrienne Simpson-Brown - Vice Chair

Dr. Jerry W. Askew

Celeste Herbert

Sara Hedstrom Pinnell

Tyvi Small

John Worden

Management

Gabriel Bolas II
President and
Chief Executive Officer

Mark Walker
Senior Vice President and
Chief Financial Officer

Susan Edwards
Senior Vice President and
Chief Administrative Officer

Derwin Hagood
Senior Vice President and
Chief Operating Officer

Eddie Black
Senior Vice President and
Chief Technology Officer

John Williams
Vice President of
Construction

Mike Bolin
Vice President of Utility
Advancement

Julie Childers
Vice President and
Century II Administrator

John Gresham
Vice President of
Operations

Knoxville Utilities Board Electric Division
Index
June 30, 2020 and 2019

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Independent Auditor's Report

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Electric Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

Management's Responsibility for the Financial Statements

The Division's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Electric Division of the Knoxville Utilities Board as of June 30, 2020 and 2019, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 25 and the required supplementary information on pages 63 through 67 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The supplemental information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The statistical information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Electric Division and do not purport to, and do not, present fairly the financial position of the Knoxville Utilities Board, as of June 30, 2020 and 2019, and the changes in its financial position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 29, 2020, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Electric Division (Division) provides services to certain customers in Knox County and in seven surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Electric Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ended June 30, 2020 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

Electric Division Highlights

System Highlights

KUB serves 210,393 electric customers over a 688 square mile service area and maintains 5,408 miles of service lines and 63 electric substations to provide 5.4 million megawatt hours to its customers annually.

For the second year in a row, KUB's system was impacted by excessive rainfall. After record setting levels in 2019, KUB experienced sustained rainfall amounts exceeding Knoxville's ten-year average for eight months of fiscal year 2020. System reliability was affected, resulting in 2.44 hours of service interruption for the average customer.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

KUB's electric system record peak in demand remains 1,328 megawatt hours, set in February 2015.

KUB has added 5,305 electric system customers over the past three years representing annual growth of less than one percent. In fiscal year 2020, 1,411 customers were added.

The typical residential customer's average monthly electric bill was $108.46 as of June 30, 2020, representing an increase of $0.08 compared to June 30, 2019. The slight increase in the monthly bill during fiscal year 2020 was the net result of the flow through of TVA wholesale rate adjustments, previously over recovered wholesale power costs and the October 2019 electric rate increase.

KUB's electric system maintains a Diamond level designation by the American Public Power Association's (APPA) Reliable Public Power Provider (RP3) program, the highest level of recognition of the program.

Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain its electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each utility system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend approximately $124.4 million on Grid Modernization, of which the Electric Division's share is approximately $80.1 million. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending $48.7 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of electric rate increases to support the Century II program. The three approved electric rate increases went into effect in October 2017, October 2018, and October 2019 generating $10.9 million, $11.2 million, and $5.7 million in additional annual Electric Division revenue, respectively.

During the fiscal year, KUB replaced 1,962 poles, exceeding the target level of 1,900 poles, and replaced 15.1 miles of transmission lines, slightly exceeding the target level of 15 miles, while staying on track with Century II goals and within the Electric Division's total capital budget.

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Financial Highlights

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's Change in Net Position increased $26.7 million in fiscal year 2020. Comparatively, net position increased by $20 million in fiscal year 2019.

Operating revenue decreased $10.7 million or 1.9 percent over the prior fiscal year. The decrease in operating revenue was the net result of additional revenue from KUB's 1 percent electric rate increase effective October 2019, the flow through of TVA rate adjustments, a 2.3 percent decrease in billed sales and the flow through of prior year over recovered purchased power costs to KUB's electric customers. KUB's over recovered purchased power cost decreased by $0.8 million in fiscal year 2020. KUB flows changes to wholesale power rates directly through to its retail electric rates via its Purchased Power Adjustment.

Seventy-five percent of Electric Division sales revenue was used to purchase electric power from TVA for the fiscal year ended June 30, 2020. Purchased power expense decreased $19.4 million compared to last fiscal year. Billed power sales were down 2.3 percent compared to fiscal year 2020, as milder winter weather offset warmer autumn and summer seasons.

Margin on electric sales (operating revenue less purchased power expense) increased $8.8 million or 6.2 percent, reflecting additional revenue from the KUB electric rate increase.

Operating expenses (excluding purchased power expense) increased $1 million. Operating and maintenance (O&M) expenditures increased $3.3 million. Depreciation expense decreased $2 million or 6.2 percent. Taxes and tax equivalents were $0.4 million, or 2 percent, lower than the prior fiscal year.

Interest income was $1.1 million less than the prior fiscal year, due to lower short-term interest rates. Interest expense decreased $0.1 million or 0.5 percent.

Capital contributions were less than $0.1 million higher than the prior fiscal year, reflecting a steady level of electric system assets provided to KUB during the fiscal year.

Total capital assets (net) increased $42.9 million or 6.8 percent over the end of the last fiscal year, reflecting pole replacements and other distribution system improvements as part of KUB's Century II electric program.

During fiscal year 2020, KUB sold $14.4 million in electric system revenue refunding bonds for the purpose of refinancing existing electric system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $2.4 million over the life of the bonds ($2.2 million on a net present value basis).

Long-term debt represented 42.6 percent of the Division's capital structure as of June 30, 2020, compared to 45.6 percent last year. Capital structure equals long-term debt (including the current and long-term portion of any revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.34. Maximum debt service coverage was 3.35.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's Change in Net Position increased $20 million in fiscal year 2019. Comparatively, net position increased by $17.6 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for Other Post-Employment Benefits (OPEB), increased the total net position by an additional $2.2 million. The change resulted in a total increase of $19.8 million in the Division's net position.

Operating revenue decreased $1.7 million or 0.3 percent compared to the prior fiscal year. The decrease in operating revenue was the result of additional revenue from KUB's October 2018 electric rate increase, the flow through of TVA rate adjustments, a one percent decrease in billed sales and the flow through of prior year over recovered purchased power costs to KUB's electric customers. KUB's over recovered purchased power cost decreased by $2 million in fiscal year 2019. KUB flows changes to wholesale power rates directly through to its retail electric rates via its Purchased Power Adjustment.

Seventy-six percent of Electric Division sales revenue was used to purchase electric power from TVA for the fiscal year ended June 30, 2019. Purchased power expense decreased $8.2 million compared to last fiscal year. Billed power sales were down one percent compared to fiscal year 2018, as milder winter weather offset warmer summer and spring seasons.

Margin on electric sales (operating revenue less purchased power expense) increased $6.4 million or 4.8 percent, reflecting additional revenue from the KUB electric rate increase.

Operating expenses (excluding purchased power expense) increased $4.8 million. Operating and maintenance (O&M) expenditures increased $7.2 million or 13.3 percent. Depreciation expense decreased $3.4 million or 9.7 percent. Taxes and tax equivalents were $1 million or 5.7 percent higher than the prior fiscal year.

Interest income was $1 million more than the prior fiscal year, due to higher short-term interest rates. Interest expense increased $1 million or 9.5 percent, due to the net effect of interest expense on long-term bonds issued in August 2018.

Capital contributions were consistent with the prior fiscal year, reflecting a steady level of electric system assets provided to KUB during the fiscal year.

Total capital assets (net) increased $52.5 million or 9 percent over the end of the last fiscal year, reflecting pole replacements and other distribution system improvements as part of KUB's Century II electric program.

During fiscal year 2019, KUB sold $40 million in electric system revenue bonds for the purpose of funding electric system capital improvements.

Long-term debt represented 45.6 percent of the Division's capital structure as of June 30, 2019, compared to 44.7 percent last year. Capital structure equals long-term debt (including the current and long-term portion of any revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.41. Maximum debt service coverage was 3.17.

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Knoxville Utilities Board Electric Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources and net position in the Statement of Net Position. Assets are classified as current, restricted, electric plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets, restricted, or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets is the net book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

Statement of Cash Flows

The Division reports its cash flows from operating activities, capital and related financing activities, and investing activities on its Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow back to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

Condensed Financial Statements

Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Electric Division compared to the prior two fiscal years.

Statements of Net Position
As of June 30

(in thousands of dollars)	2020	2019	2018
Current, restricted and other assets	$ 181,494	$ 175,145	$ 192,101
Capital assets, net	677,193	634,286	581,742
Deferred outflows of resources	8,535	12,340	4,457
Total assets and deferred outflows of resources	867,222	821,771	778,300
Current and other liabilities	140,286	114,634	112,235
Long-term debt outstanding	305,318	320,244	294,206
Deferred inflows of resources	9,873	1,845	6,844
Total liabilities and deferred inflows of resources	455,477	436,723	413,285
Net position			
Net investment in capital assets	356,245	300,563	278,370
Restricted	14,186	13,610	12,285
Unrestricted	41,314	70,875	74,360
Total net position	$ 411,745	$ 385,048	$ 365,015

Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation:

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.
- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

Impacts and Analysis

Current, Restricted and Other Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Current, restricted and other assets increased $6.3 million or 3.6 percent. The change reflects an increase in the actuarially determined net pension asset of $9.2 million, an increase in general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments) of $2.9 million, and a net increase in operating contingency reserves of $1.1 million. These increases were offset by a decrease in inventory of $4.4 million, a decrease in accounts receivable of $1.2 million, and a decrease in TVA conservation receivables of $1 million.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current, restricted and other assets decreased $17 million or 8.8 percent. The change reflects a decrease in the actuarially determined net pension asset of $9.5 million, a decrease in accounts receivable of $5.1 million, a decrease in general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments) of $2.4 million and a decrease in the actuarially determined net OPEB asset of $1.8 million. These decreases were offset by a net increase in operating contingency reserves of $1.4 million.

Capital Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Capital assets, net of depreciation, increased $42.9 million or 6.8 percent. Major capital expenditures included $24.1 million for distribution system improvements, $8.1 million for building improvements, $7.3 million for pole replacements, $7.3 million for Grid Modernization including Supervisory Control and Data Acquisition (SCADA) system upgrades and $5.8 million for installation or replacement of electric services.

Fiscal Year 2019 Compared to Fiscal Year 2018

Capital assets, net of depreciation, increased $52.5 million or 9 percent. Major capital expenditures included $29.5 million for distribution system improvements, $13 million for building improvements, $10.3 million for pole replacements, $9.2 million for Grid Modernization including Supervisory Control and Data Acquisition (SCADA) system upgrades and $2.6 million for installation or replacement of electric services.

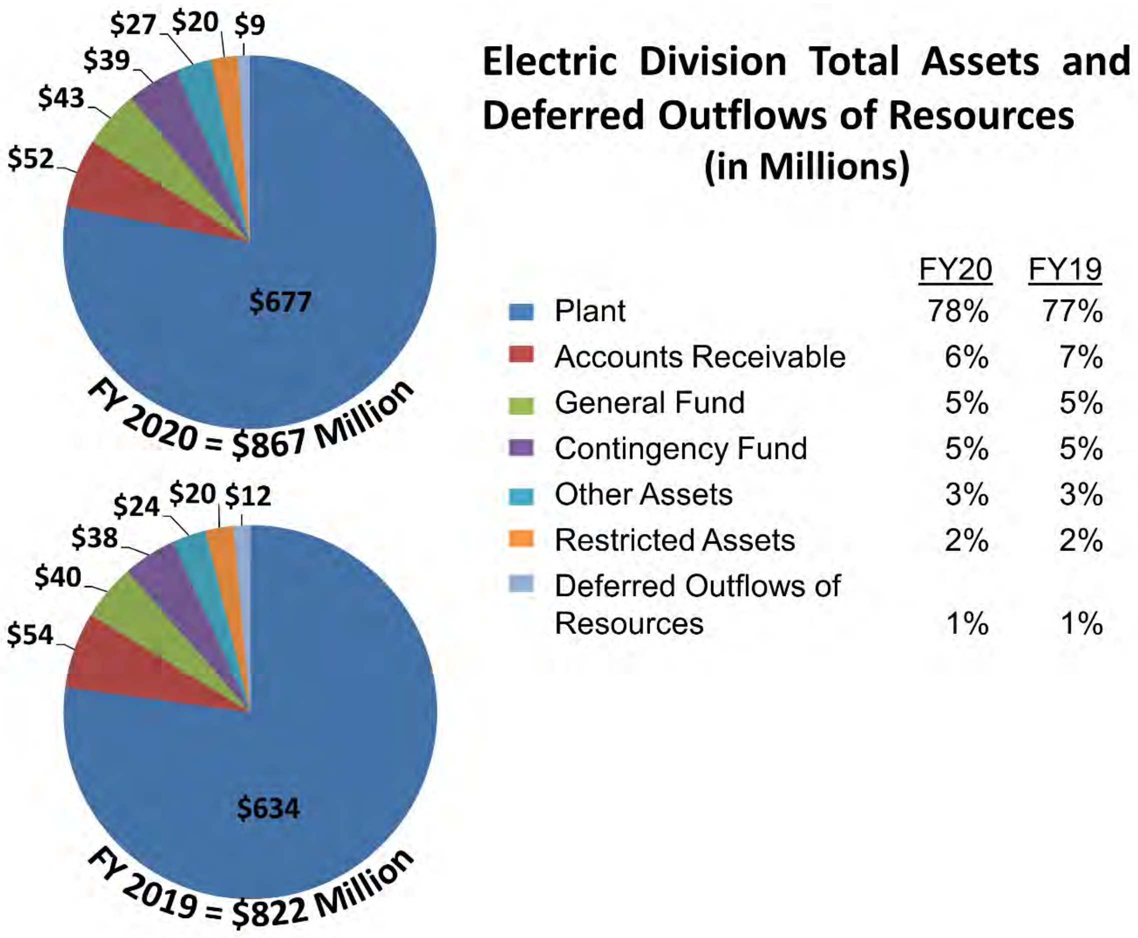
Deferred Outflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred outflows of resources decreased $3.8 million compared to the prior fiscal year primarily due to a decrease in pension outflow of $4.4 million and an increase in OPEB outflow of $0.8 million.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred outflows of resources increased $7.9 million compared to the prior fiscal year primarily due to an increase in pension outflow of $7.3 million.



Electric Division Total Assets and Deferred Outflows of Resources (in Millions)

		FY20	FY19
🟦	Plant	78%	77%
🟥	Accounts Receivable	6%	7%
🟩	General Fund	5%	5%
🟪	Contingency Fund	5%	5%
🟦	Other Assets	3%	3%
🟧	Restricted Assets	2%	2%
🟦	Deferred Outflows of Resources	1%	1%

Current and Other Liabilities

Fiscal Year 2020 Compared to Fiscal Year 2019

Current and other liabilities increased $25.7 million. Accounts payable increased $24.1 million, net OPEB liability increased $2.9 million, customer advances for construction increased $1.2 million, accrued expenses increased $0.9 million, and the current portion of revenue bonds and associated accrued interest increased $0.4 million. The increase in accounts payable is primarily attributable to a change in timing of the payment of the May TVA wholesale power invoice. The increases in liabilities were offset by a decrease in net pension liability of $3.3 million. The outstanding balance on TVA conservation loans declined by $1.1 million, as KUB ceased issuance of any new loans in fiscal year 2016.

KUB over recovered $1.8 million in wholesale power costs from its customers in fiscal year 2020, as compared to a $2.7 million over recovery in fiscal year 2019. This over recovery of costs will be flowed back to KUB's electric customers during the next fiscal year through adjustments to rates via the Purchased Power Adjustment.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current and other liabilities increased $2.4 million. Net pension liability increased $3.2 million, customer advances for construction increased $2.8 million, and the current portion of revenue bonds and associated accrued interest increased $1.8 million. These increases were offset by a decline in accounts payable of $1.8 million and a decline in accrued expenses of $2.2 million. The outstanding balance on TVA conservation loans declined by $1.3 million, as KUB ceased issuance of any new loans in fiscal year 2016.

KUB over recovered $2.7 million in wholesale power costs from its customers in fiscal year 2019, as compared to a $4.7 million over recovery in fiscal year 2018. This over recovery of costs will be flowed back to KUB's electric customers during the next fiscal year through adjustments to rates via the Purchased Power Adjustment.

Long-Term Debt

Fiscal Year 2020 Compared to Fiscal Year 2019

Long-term debt decreased 14.9 million or 4.7 percent. Electric system revenue refunding bonds of $14.4 million, sold in April 2020, were offset by the refunded bonds and the scheduled repayment of debt.

Fiscal Year 2019 Compared to Fiscal Year 2018

Long-term debt increased $26 million or 8.9 percent. Electric system revenue bonds of $40 million, sold in August 2018, were offset by the scheduled repayment of debt.

Deferred Inflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred inflows increased $8 million compared to the prior fiscal year due to differences in pension inflows.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred inflows decreased $5 million compared to the prior fiscal year due to differences in pension inflows.

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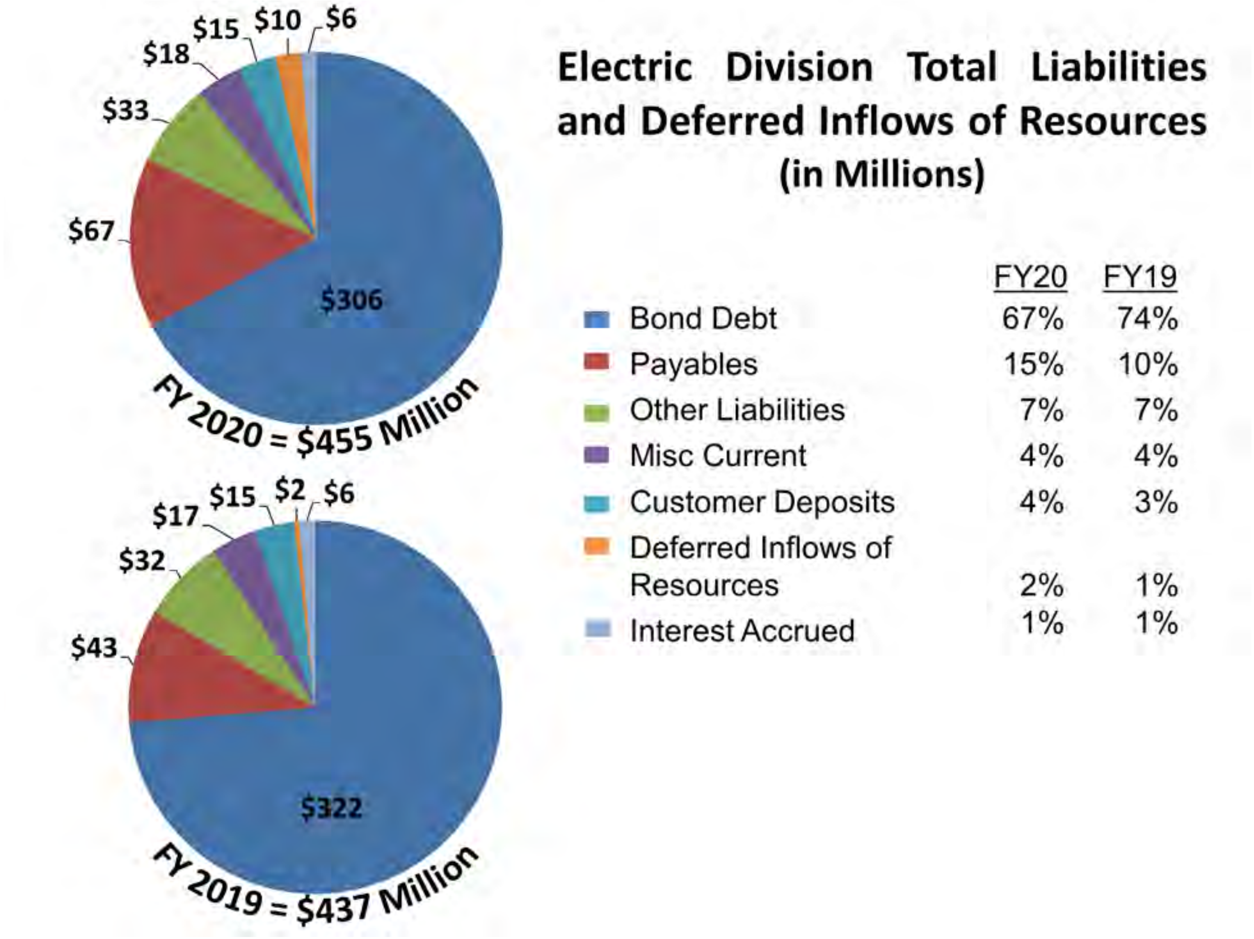

Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

Unrestricted net position decreased $29.6 million, primarily due to the $25.7 million increase in current and other liabilities. This increase is offset by a decrease in deferred ouflows of $3.8 million and an increase in deferred inflows of $8 million related to pension and OPEB. Net investment in capital assets increased by $55.7 million or 18.5 percent. The increase was primarily the result of an increase of $42.9 million in net electric plant additions and a decrease in the current portion of revenue bonds and total long-term debt of $14.3 million. Restricted net position increased $0.6 million due to the net increase of the electric bond fund and the associated interest payable.

Fiscal Year 2019 Compared to Fiscal Year 2018

Unrestricted net position decreased $3.5 million, primarily due to the $18.7 million decrease in current and other assets. This decrease is offset by a decrease in deferred inflows of $5 million and an increase in deferred outflows of $8.2 million related to pension and OPEB. Net investment in capital assets increased by $22.2 million or 8 percent. The increase was primarily the result of an increase of $52.5 million in net electric plant additions offset by an increase in the current portion of revenue bonds and total long-term debt of $27.4 million. Restricted net position increased $1.3 million due to the net increase of the electric bond fund and the associated interest payable.

Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Electric Division compared to the prior two fiscal years.

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Operating revenues	$ 547,687	$ 558,370	$ 560,111
Less: Purchased power expense	398,230	417,675	425,841
Margin from sales	149,457	140,695	134,270
Operating expenses			
Distribution	39,929	35,540	35,020
Customer service	6,186	7,160	6,124
Administrative and general	18,764	18,844	13,173
Depreciation	29,994	31,991	35,431
Taxes and tax equivalents	18,333	18,711	17,700
Total operating expenses	113,206	112,246	107,448
Operating income	36,251	28,449	26,822
Interest income	1,579	2,667	1,635
Interest expense	(11,648)	(11,704)	(10,692)
Other income/(expense)	346	500	(294)
Change in net position before capital contributions	26,528	19,912	17,471
Capital contributions	169	121	120
Change in net position	$ 26,697	$ 20,033	$ 17,591

Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation:

- Operating revenue is largely determined by the volume of electric power sales for the fiscal year. Any change (increase/decrease) in retail electric rates would also be a cause of change in operating revenue.

- Purchased power expense is determined by volume of power purchases from TVA for the fiscal year. Also, any change (increase/decrease) in TVA wholesale power rates would result in a change in purchased power expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor costs (staffing, wage rates), active employee and retiree medical costs, and overhead line maintenance (tree trimming, pole inspection, etc.).

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements, changes in property tax rates, and margin (operating revenue less purchased power expense) levels.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

Impacts and Analysis

Change in Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's Change in Net Position increased $26.7 million in fiscal year 2020. Comparatively, net position increased $20 million in fiscal year 2019.

The higher earnings were attributable to the net effect of an $8.8 million increase in margin on sales offset by a $1.1 million decrease in interest income and a $1 million increase in operating expenses.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's Change in Net Position increased $20 million in fiscal year 2019. Comparatively, net position increased $17.6 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for OPEB, increased the total net position by an additional $2.2 million. The change resulted in a total increase of $19.8 million in the Division's net position.

The higher earnings were attributable to the net effect of a $6.4 million increase in margin on sales and a $1 million increase in interest income offset by a $1 million increase in interest expense and a $4.8 million increase in operating expenses.

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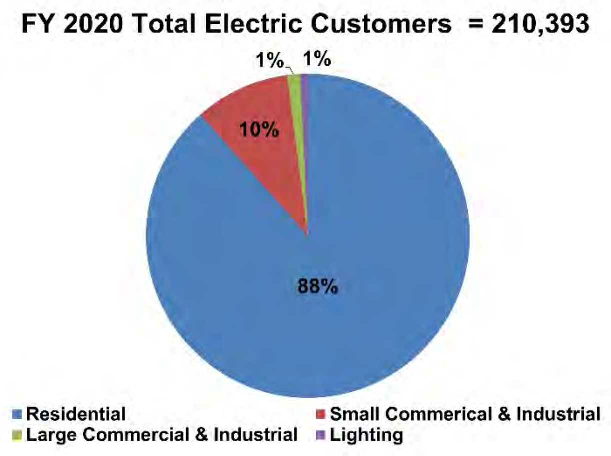
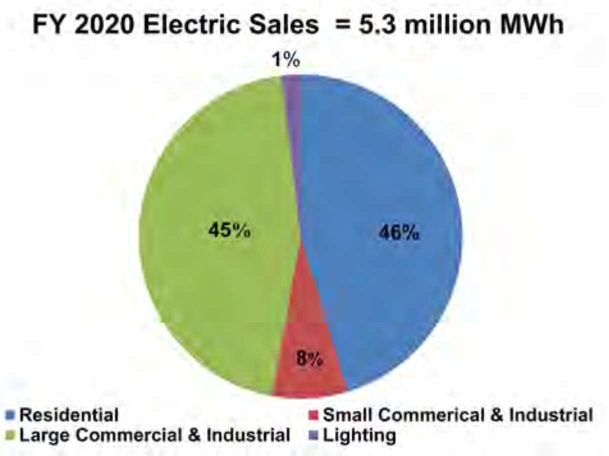
Margin from Sales

Fiscal Year 2020 Compared to Fiscal Year 2019

Margin on electric sales grew $8.8 million, reflecting increased revenue due to the October 2019 rate increase.

Operating revenue decreased $10.7 million or 1.9 percent, reflecting the net result of additional revenue from KUB's 1 percent electric rate increase effective October 2019, the flow through of previously over recovered wholesale power costs, and the flow through of TVA rate adjustments. Billed power sales were down 2.3 percent compared to fiscal year 2019. Purchased power expense decreased $19.4 million over last year.





Residential customers represented 88 percent of total electric system customers and accounted for 46 percent of electric sales volumes for the year. Large commercial and industrial customers accounted for 45 percent of electric sales volumes, though volumes decreased 2.6 percent partially due to the closure of Tennova's Physicians Regional Medical Center campus in North Knoxville last fiscal year. KUB's ten largest electric customers accounted for 18 percent of KUB's billed volumes. Those ten customers represent two industrial and eight commercial customers, including four governmental customers. Sales to the University of Tennessee, KUB's largest commercial/governmental customer, accounted for 4.2 percent of total electric system sales.

KUB has added 5,305 electric system customers over the past three years, representing annual growth of less than one percent. Electric billed sales volumes have declined 3 percent over the past three years. Fiscal year 2020 customer growth was 1,411.

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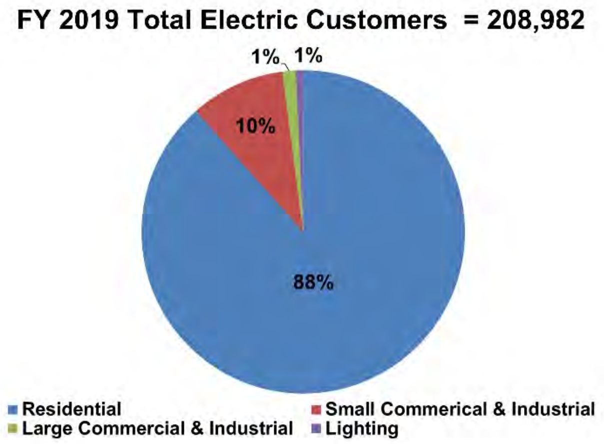
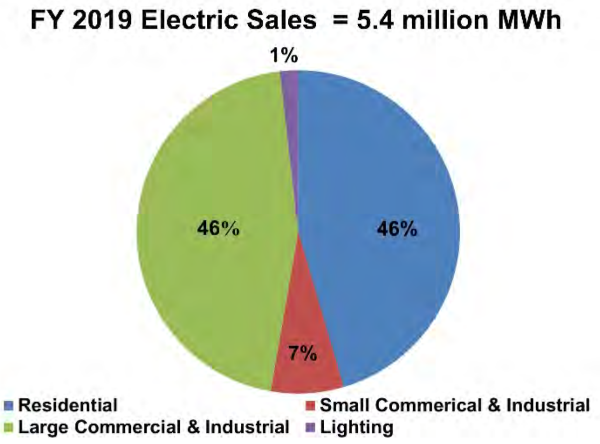
Fiscal Year 2019 Compared to Fiscal Year 2018

Margin on electric sales grew $6.4 million, reflecting increased revenue due to the October 2018 rate increase.

Operating revenue decreased $1.7 million or 0.3 percent, reflecting the net result of additional revenue from KUB’s October 2018 electric rate increase, the flow through of previously over recovered wholesale power costs, and the flow through of TVA rate adjustments. Billed power sales were down one percent compared to fiscal year 2018, as the impact from the closure of two large customers was offset by a warm spring and summer. Purchased power expense decreased $8.2 million over last year.





Residential customers represented 88 percent of total electric system customers and accounted for 46 percent of electric sales volumes for the year. Large commercial and industrial customers also accounted for 46 percent of electric sales volumes, though volumes decreased two percent partially due to the closure of Tennova’s Physicians Regional Medical Center campus in North Knoxville. KUB’s ten largest electric customers accounted for 18 percent of KUB’s billed volumes. Those ten customers represent two industrial and eight commercial customers, including five governmental customers. Sales to the University of Tennessee, KUB’s largest commercial/governmental customer, accounted for 4.5 percent of total electric system sales.

KUB has added 6,139 electric system customers over the past three years, representing annual growth of one percent. Electric billed sales volumes have remained consistent over the past three years. Fiscal year 2019 customer growth was 2,549.

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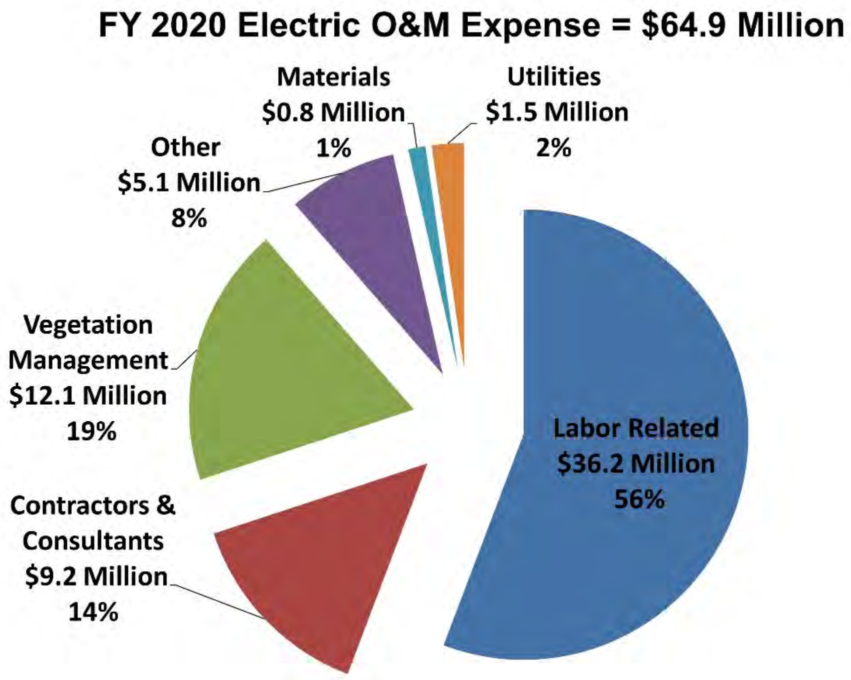
Operating Expenses

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating expenses (excluding purchased power expense) increased $1 million, compared to fiscal year 2019. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service, and administrative and general.

- Distribution expenses increased $4.4 million or 12.3 percent, primarily due to an increase in vegetation management costs.
- Customer service expenses decreased $1 million, primarily due to reduced use of outside contractors.
- Administrative and general expenses were consistent with the prior fiscal year.



- Depreciation expense for fiscal year 2020 decreased $2 million or 6.2 percent, as the accelerated depreciation of existing meters replaced as part of KUB's system wide deployment of advanced metering equipment came to a close this year and $26.1 million of assets were retired.
- Taxes and tax equivalents were $0.4 million lower than the prior fiscal year, due to lower Knox County equalization rates.

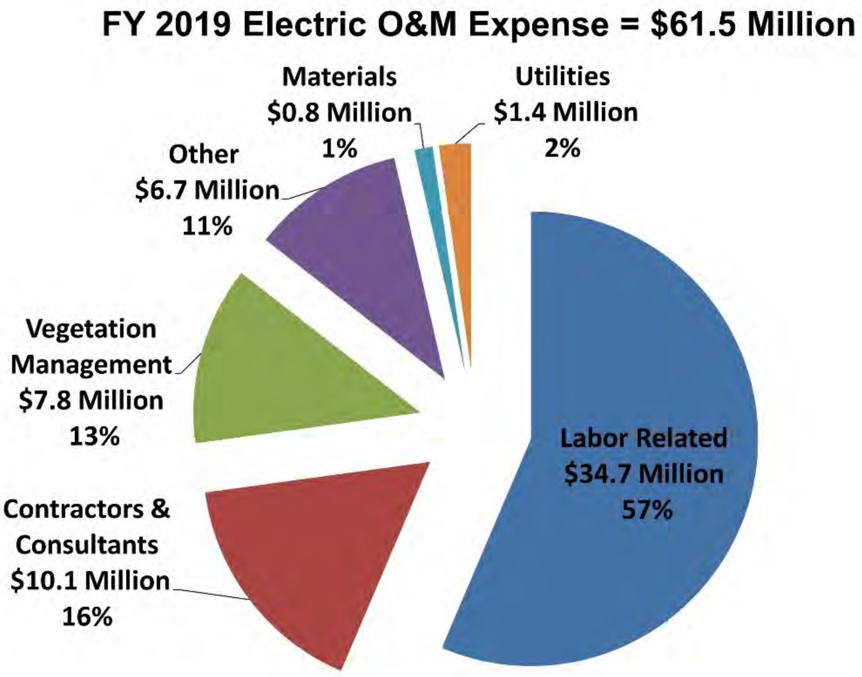
Fiscal Year 2019 Compared to Fiscal Year 2018

Operating expenses (excluding purchased power expense) increased $4.8 million, compared to fiscal year 2018. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service, and administrative and general.

- Distribution expenses increased $0.5 million or 1.5 percent, primarily due to increased labor related expenses.

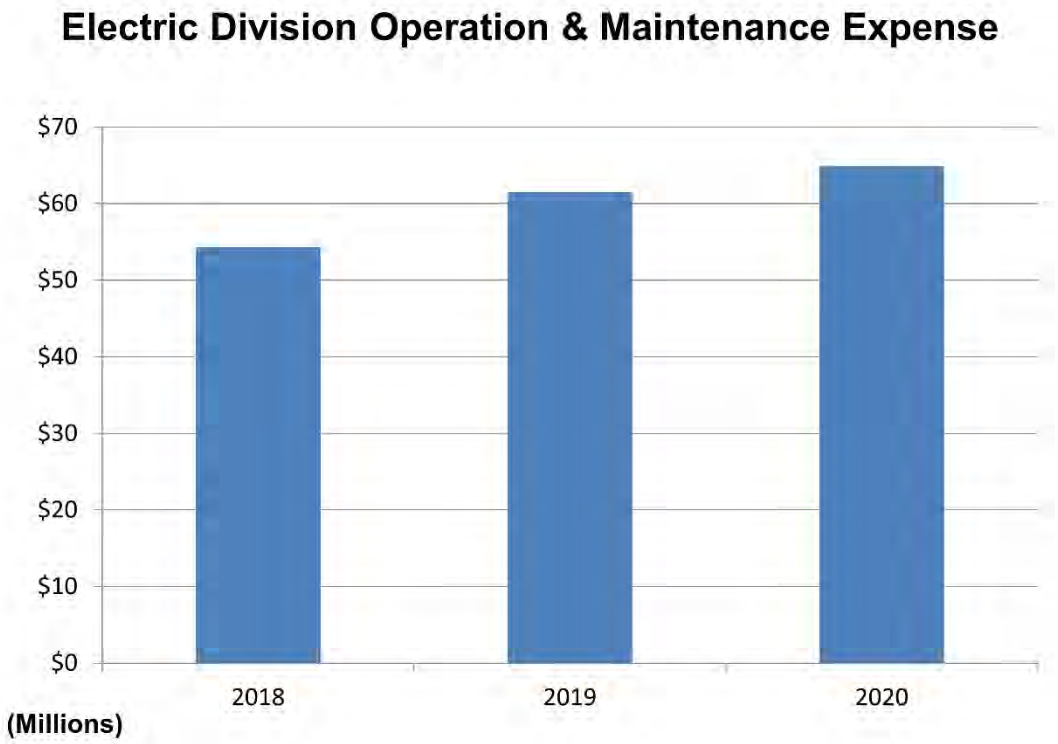
- Customer service expenses increased $1 million, primarily due to increased outside contractor use.

- Administrative and general expenses increased $5.7 million, primarily due to higher labor related expenses including higher pension expenses, reflecting impact of investment losses on Pension Trust assets in 2018.



- Depreciation expense for fiscal year 2019 decreased $3.4 million or 9.7 percent. This decrease was primarily attributable to the sale of streetlight assets to the City of Knoxville.

- Taxes and tax equivalents were $1 million higher than the prior fiscal year primarily due to increased plant in service levels.



Other Income and Expense

Fiscal Year 2020 Compared to Fiscal Year 2019

Interest income decreased $1.1 million compared to the prior fiscal year, primarily due to decreased short-term interest rates over the prior fiscal year.

Interest expense decreased $0.1 million or 0.5 percent.

Other income (net) decreased $0.2 million, primarily due to mark-to-market adjustments on investments.

The Division's capital contributions increased less than $0.1 million, reflecting a steady level of developer donated utility assets compared to the prior fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Interest income increased $1 million compared to the prior fiscal year, primarily due to increases in short-term interest rates over the prior fiscal year.

Interest expense increased $1 million or 9.5 percent, reflecting the impact of interest expense from new revenue bonds sold during the fiscal year.

Other income (net) increased $0.8 million, primarily due to mark-to-market adjustments on investments.

The Division's capital contributions were consistent, reflecting a steady level of developer donated utility assets compared to the prior fiscal year.

Capital Assets

Capital Assets
As of June 30
(Net of Depreciation)

(in thousands of dollars)	**2020**	**2019**	**2018**
Distribution Plant			
Services and Meters	$ 50,485	$ 41,665	$ 31,210
Electric Station Equipment	57,564	52,974	54,695
Poles, Towers and Fixtures	140,424	137,804	127,343
Overhead Conductors	110,865	108,965	99,761
Line Transformers	61,725	61,784	61,446
Other Accounts	112,004	107,268	104,435
Total Distribution Plant	$ 533,067	$ 510,460	$ 478,890
General Plant	48,484	28,442	27,821
Total Plant Assets	$ 581,551	$ 538,902	$ 506,711
Work In Progress	95,642	95,384	75,031
Total Net Plant	$ 677,193	$ 634,286	$ 581,742

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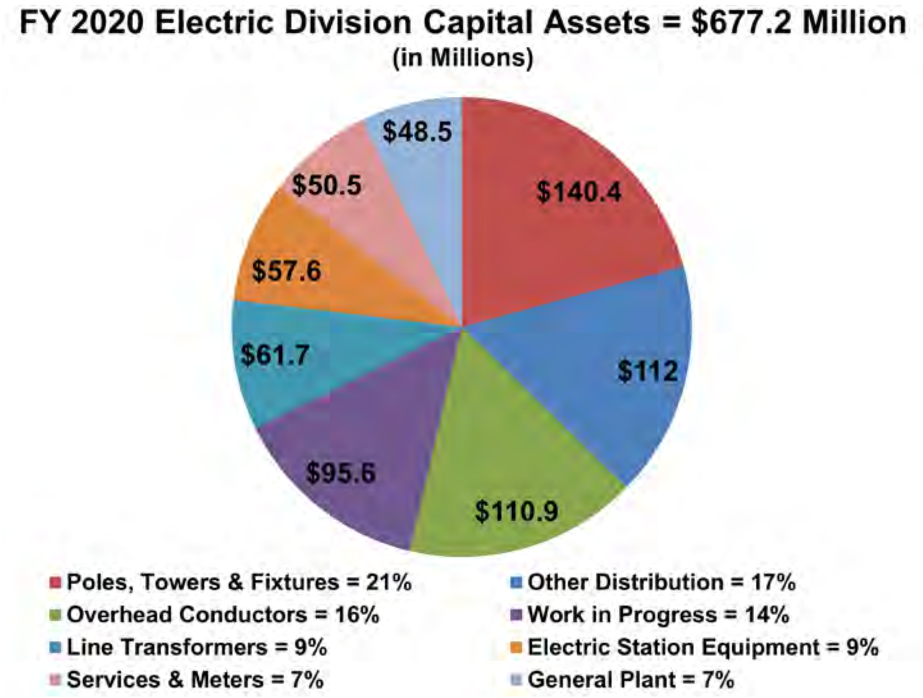
Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $677.2 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $42.9 million or 6.8 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $24.1 million for electric distribution system improvements
- $8.1 million for building improvements including a new Engineering Building
- $7.3 million for pole replacements
- $7.3 million for Grid Modernization, including SCADA system upgrades
- $5.8 million for installation of new electric services and the upgrade or replacement of existing services

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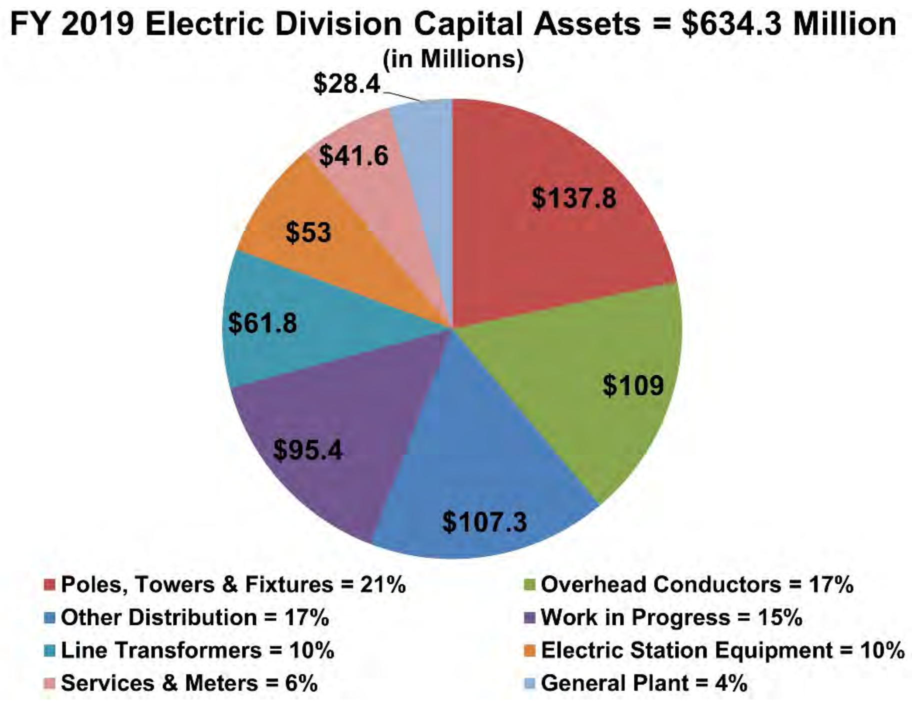
Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $634.3 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $52.5 million or 9 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $29.5 million for electric distribution system improvements
- $13 million for building improvements
- $10.3 million for pole replacements
- $9.2 million for Grid Modernization including SCADA system upgrades
- $2.6 million for installation of new electric services and the upgrade or replacement of existing services

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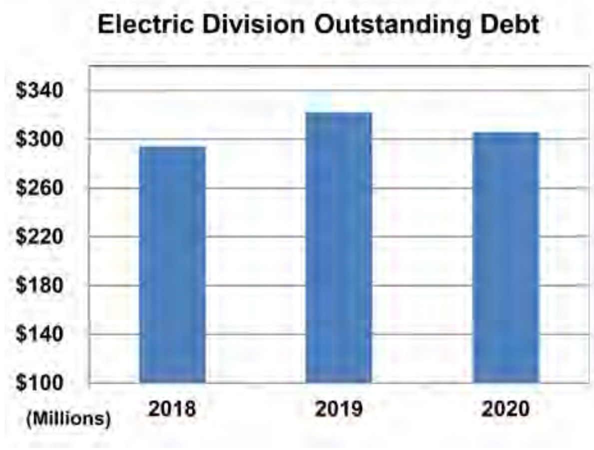
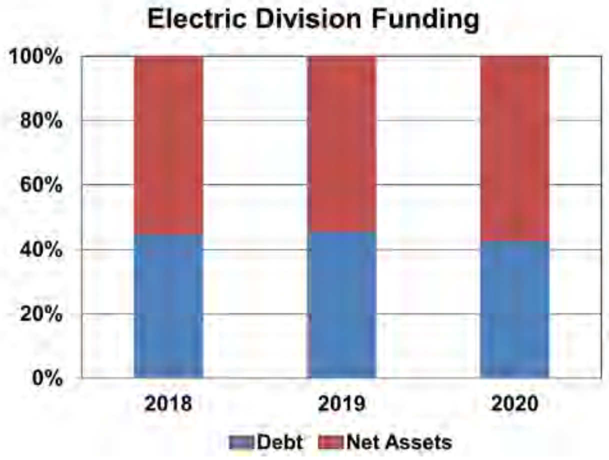
Debt Administration

The Division's outstanding debt was $305.8 million at June 30, 2020. The bonds are secured solely by revenues of the Electric Division. Debt as a percentage of the Division's capital structure was 42.6 percent in 2020, 45.6 percent in 2019, and 44.7 percent at the end of fiscal year 2018. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

Outstanding Debt
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Revenue bonds	$ 305,835	$ 322,170	$ 294,450
Total outstanding debt	$ 305,835	$ 322,170	$ 294,450





The Division will pay $148.2 million in principal payments over the next ten years, representing 48.5 percent of the outstanding bonds. KUB's Debt Management Policy requires that a minimum of 30 percent of electric debt principal be repaid over the next ten years.

Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $305.8 million in outstanding debt (including the current portion of revenue bonds), compared to $322.2 million last year, a decrease of 16.4 million or 5.1 percent. The decrease is attributable to new revenue refunding bonds issued during the fiscal year offset by the refunded bonds and the scheduled repayment of debt. As of June 30, 2020, the Division's weighted average cost of debt was 3.59 percent (3.58 percent including the impact of Build America Bonds rebates).

KUB sold $14.4 million in electric system revenue refunding bonds in April 2020 for the purpose of refinancing existing electric system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $2.4 million over the life of the bonds ($2.2 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 1.50 percent. The bonds mature over a period of 10 years with a final maturity in fiscal year 2031.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2020, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service.

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $322.2 million in outstanding debt (including the current portion of revenue bonds), compared to $294.5 million last year, an increase of $27.7 million or 9.4 percent. The increase is attributable to new revenue bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2019, the Division's weighted average cost of debt was 3.66 percent (3.55 percent including the impact of Build America Bonds rebates).

KUB sold $40 million in electric system revenue bonds in August 2018 for the purpose of funding electric system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.42 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2019, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service. In May 2019, KUB received a change in its long-term rating from Standard & Poor's on the electric system. The reduction from 'AA+' to 'AA' reflects a change in methodology in how Standard & Poor's calculates fixed-charge coverage by including the utility's demand component of its purchased power bill to cover its portion of the Tennessee Valley Authority's (TVA) fixed costs, including debt service associated with generating plants. KUB's reduction is consistent with that of other TVA distributors due to the same change in methodology.

Impacts on Future Financial Position

KUB anticipates adding 1,750 additional electric customers in fiscal year 2021.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources.

In March 2020, KUB executed a new Long-Term Partnership Agreement with TVA, extending the term of its five-year evergreen power supply contract with TVA to a 20-year evergreen contract. In return for signing the longer-term agreement with TVA, KUB will receive an annual partnership credit of 3.1% on TVA's wholesale base rates, estimated to be around $9.5 million per year. Among other things, the new partnership agreement also provides KUB with the flexibility to self-generate up to five percent of its annual power supply through renewable sources.

KUB will be using a portion of the annual partnership credit, around $800,000 annually, to purchase 212MW of solar power to meet the needs of its electric system customers through TVA's Green Invest Program. This first of its kind agreement in the TVA region will provide 465 million kilowatt-hours of solar output and represent about eight percent of KUB's electric system load. The solar developments providing the 212MW of solar energy are due to be completed in fiscal year 2022.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

KUB's long-term debt includes $1.4 million of Electric Division 2010 Build America Bonds (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced 5.9 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,520,486. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $1,759,281. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $363,468. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Electric Division's portion of this contribution is $234,752. The Plan's actuarial funded ratio is 97.68 percent.

GASB Statement No. 84, *Fiduciary Activities*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 87, *Leases*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period,* is effective for fiscal years beginning after December 15, 2020. GASB Statement No. 90, *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 91, *Conduit Debt Obligations*, is effective for fiscal years beginning after December 15, 2021. GASB Statement No. 92, *Omnibus 2020*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 93, *Replacement of Interbank Offered Rates*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*, is effective for fiscal years beginning after June 15, 2021. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2020.

Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ended June 30, 2020 and 2019. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

Knoxville Utilities Board Electric Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Current assets:		
Cash and cash equivalents	$ 43,327,171	$ 25,457,569
Short-term investments	-	14,989,200
Short-term contingency fund investments	33,658,768	25,929,199
Other current assets	418,467	411,950
Accrued interest receivable	6,001	73,899
Accounts receivable, less allowance of uncollectible accounts of $430,529 in 2020 and $411,152 in 2019	52,494,791	53,744,219
Inventories	11,987,689	16,376,074
Prepaid expenses	703,611	698,200
Total current assets	142,596,498	137,680,310
Restricted assets:		
Electric bond fund	19,873,134	19,496,697
Other funds	727	10,311
Total restricted assets	19,873,861	19,507,008
Electric plant in service	1,023,267,900	975,757,680
Less accumulated depreciation	(441,716,884)	(436,855,568)
	581,551,016	538,902,112
Retirement in progress	3,159,699	2,131,243
Construction in progress	92,482,611	93,252,508
Net plant in service	677,193,326	634,285,863
Other assets:		
Net pension asset	9,178,260	-
Long-term contingency fund investments	4,880,955	11,559,399
TVA conservation program receivable	1,933,798	2,961,311
Other	3,030,366	3,436,627
Total other assets	19,023,379	17,957,337
Total assets	858,687,064	809,430,518
Deferred outflows of resources:		
Pension outflow	3,899,081	8,281,265
OPEB outflow	2,005,781	1,196,726
Unamortized bond refunding costs	2,630,234	2,862,135
Total deferred outflows of resources	8,535,096	12,340,126
Total assets and deferred outflows of resources	$ 867,222,160	$ 821,770,644

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Electric Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Liabilities, Deferred Inflows, and Net Position		
Current liabilities:		
Current portion of revenue bonds	$ 14,185,000	$ 13,600,000
Sales tax collections payable	919,794	981,629
Accounts payable	66,095,573	42,010,867
Accrued expenses	18,309,578	17,440,250
Customer deposits plus accrued interest	15,449,939	14,599,496
Accrued interest on revenue bonds	5,688,009	5,896,573
Total current liabilities	120,647,893	94,528,815
Other liabilities:		
TVA conservation program	2,023,948	3,082,829
Accrued compensated absences	4,724,274	4,231,203
Customer advances for construction	7,285,510	6,081,864
Net pension liability	9,713	3,303,187
Net OPEB liability	3,642,935	694,916
Over recovered purchased power cost	1,848,630	2,674,466
Other	103,644	36,986
Total other liabilities	19,638,654	20,105,451
Long-term debt:		
Electric revenue bonds	291,650,000	308,570,000
Unamortized premiums/discounts	13,668,174	11,673,884
Total long-term debt	305,318,174	320,243,884
Total liabilities	445,604,721	434,878,150
Deferred inflows of resources:		
Pension inflow	9,872,921	1,844,823
Total deferred inflows of resources	9,872,921	1,844,823
Total liabilities and deferred inflows of resources	455,477,642	436,722,973
Net position		
Net investment in capital assets	356,245,321	300,562,581
Restricted for:		
Debt service	14,185,125	13,600,124
Other	727	10,311
Unrestricted	41,313,345	70,874,655
Total net position	411,744,518	385,047,671
Total liabilities, deferred inflows, and net position	$ 867,222,160	$ 821,770,644

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Electric Division
Statements of Revenues, Expenses and Changes in Net Position
Years Ended June 30, 2020 and 2019

	2020	2019
Operating revenues	$ 547,686,983	$ 558,369,583
Operating expenses		
Purchased power	398,229,905	417,674,655
Distribution	39,928,275	35,539,679
Customer service	6,186,221	7,160,178
Administrative and general	18,764,049	18,843,502
Provision for depreciation	29,994,212	31,991,227
Taxes and tax equivalents	18,332,928	18,710,928
Total operating expenses	511,435,590	529,920,169
Operating income	36,251,393	28,449,414
Non-operating revenues (expenses)		
Contributions in aid of construction	2,063,288	3,175,023
Interest income	1,579,182	2,666,532
Interest expense	(11,647,959)	(11,704,490)
Amortization of debt costs	378,924	355,852
Write-down of plant for costs recovered through contributio	(2,063,288)	(3,175,023)
Other	(33,702)	144,272
Total non-operating revenues (expenses)	(9,723,555)	(8,537,834)
Change in net position before capital contributions	26,527,838	19,911,580
Capital contributions	169,009	120,717
Change in net position	26,696,847	20,032,297
Net position, beginning of year	385,047,671	365,015,374
Net position, end of year	$ 411,744,518	$ 385,047,671

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Electric Division
Statements of Cash Flows
Years Ended June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash receipts from customers	$ 539,716,128	$ 556,060,252
Cash receipts from other operations	11,093,817	10,771,445
Cash payments to suppliers of goods or services	(407,431,732)	(459,063,253)
Cash payments to employees for services	(26,220,385)	(26,982,458)
Payment in lieu of taxes	(16,067,210)	(16,459,902)
Cash receipts from collections of TVA conservation loan program participants	1,171,803	1,539,808
Cash payments for TVA conservation loan program	(1,203,172)	(1,548,508)
Net cash provided by operating activities	101,059,249	64,317,384
Cash flows from capital and related financing activities:		
Net proceeds from bond issuance	-	40,136,680
Principal paid on revenue bonds	(13,600,000)	(12,275,000)
Interest paid on revenue bonds	(11,856,523)	(11,260,838)
Acquisition and construction of electric plant	(76,390,903)	(89,286,078)
Changes in electric bond fund, restricted	(376,437)	(1,768,652)
Customer advances for construction	1,226,285	2,888,073
Proceeds received on disposal of plant	193,187	300,949
Cash received from developers and individuals for capital purposes	2,063,288	3,175,023
Net cash used in capital and related financing activities	(98,741,103)	(68,089,843)
Cash flows from investing activities:		
Purchase of investment securities	(26,938,348)	(34,097,101)
Maturities of investment securities	40,930,828	20,673,155
Interest received	1,737,297	2,614,848
Other property and investments	(178,321)	(295,217)
Net cash provided by (used in) investing activities	15,551,456	(11,104,315)
Net increase (decrease) in cash and cash equivalents	17,869,602	(14,876,774)
Cash and cash equivalents, beginning of year	25,457,569	40,334,343
Cash and cash equivalents, end of year	43,327,171	$ 25,457,569
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 36,251,393	$ 28,449,414
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	31,373,335	33,344,746
Changes in operating assets and liabilities:		
Accounts receivable	1,249,428	5,109,297
Inventories	4,388,385	334,819
Prepaid expenses	(5,411)	(3,196)
TVA conservation program receivable	1,027,513	1,339,690
Other assets	279,440	(112,530)
Sales tax collections payable	(61,835)	12,390
Accounts payable and accrued expenses	27,524,617	(1,859,486)
Unrecovered purchased power cost	(825,836)	(2,032,249)
TVA conservation program payable	(1,058,881)	(1,348,390)
Customer deposits plus accrued interest	850,443	1,095,711
Other liabilities	66,658	(12,832)
Net cash provided by operating activities	$ 101,059,249	$ 64,317,384
Noncash capital activities:		
Acquisition of plant assets through developer contributions	$ 169,009	$ 120,717

The accompanying notes are an integral part of these financial statements.

1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. The Electric Division (Division) provides services to certain customers in Knox County and in seven surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform Division of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Electric Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

2. Summary of Significant Accounting Policies

Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments,* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

Recently Adopted New Accounting Pronouncements

In May 2020, the GASB issued GASB Statement No. 95 (Statement No. 95), *Postponement of the Effective Dates of Certain Authoritative Guidance.* The objective of this Statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. That objective is accomplished by postponing the effective dates of certain provisions in Statements and Implementation Guides that first became effective or are scheduled to become effective for fiscal years beginning after June 15, 2018. The requirements of this Statement are effective immediately.

Electric Plant

Electric plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of electric plant in service is based on the estimated useful lives of the assets, which range from three to forty years, and is computed using the straight-line method. Pursuant to FERC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $1,379,123 in fiscal year 2020 and $1,353,519 in fiscal year 2019. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Electric Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $1,453,483 in fiscal year 2020 and $1,432,683 in fiscal year 2019.

Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets, net position-restricted, and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

OPEB Plan

KUB's employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the Rule of 80 (age plus years of service) with a minimum of 20 years of service and were enrolled in medical coverage on their last day, are eligible for post-employment health care. KUB's OPEB Trust was established by KUB's Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. KUB's policy is to fully fund the annual actuarially determined contributions, which are determined by actuarial valuation. As required by GASB Statement No. 75, KUB measures net OPEB liability as total OPEB liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a June 30, 2020 and 2019 measurement date, respectively. The net OPEB liability is $7,589,447 (Division's share $3,642,935) as of June 30, 2020, and $1,447,742 (Division's share $694,916) as of June 30, 2019.

Pension Plan and Qualified Excess Benefit Arrangement

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The net pension asset is $19,121,375 (Division's share $9,178,260) as of June 30, 2020, and the net pension liability was $6,649,756 (Division's share $3,191,883) as of June 30, 2019.

KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB (Note 11). As required by GASB Statement No. 73, KUB measures the total pension liability of the QEBA. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The total pension liability of the

QEBA is $20,236 (Division’s share $9,713) as of June 30, 2020, and $231,883 (Division’s share $111,304) as of June 30, 2019.

Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but are not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer’s reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and OPEB plan investments, differences between expected and actual experience, and changes in assumptions in accordance with Statements No. 68, 73, and 75.

Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt and is recorded as amortization expense.

Compensated Absences

KUB accrues a liability for earned but unpaid paid time off (PTO) days.

TVA Conservation Program

KUB previously served as a fiscal intermediary for the Tennessee Valley Authority (TVA) whereby loans were made to KUB customers by TVA to be used in connection with TVA's Energy Right Residential Program. While KUB still holds existing loans on behalf of TVA, no loans were made through this program after October 31, 2015.

Subsequent Events

KUB has evaluated events and transactions through October 29, 2020, the date these financial statements were issued, for items that should potentially be recognized or disclosed.

Purchased Power Adjustment

In October 2002, the Board adopted a Purchased Power Adjustment (PPA) to address changes in wholesale power costs. The PPA was established in response to an amendment to KUB's power supply contract under which, among other things, TVA relinquished its regulatory authority over KUB's retail electric rates. The PPA allows KUB to promptly adjust retail electric rates in response to wholesale rate changes or adjustments, thus ensuring that KUB will recover the costs incurred for purchased power. These changes in electric costs are reflected as adjustments to the base electric rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the "self-regulated" provisions of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, and KUB meets the remaining criteria of Statement No. 62.

TVA implemented a fuel cost adjustment in October 2006 applied on a quarterly basis to wholesale power rates. TVA's quarterly fuel cost adjustment became a monthly fuel cost adjustment effective October 2009. KUB flows changes to wholesale power rates from TVA's fuel cost adjustment mechanism directly through to its retail electric rates via the PPA.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its PPA to include a deferred accounting component to ensure appropriate matching of revenue and expense and cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the PPA.

Under the PPA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Power Cost accounts. These accounts are rolled into the PPA rate adjustments thereby assuring that any over/(under) recovered amounts are promptly passed on to KUB's electric customers. The amount of over/(under) recovered cost was $1,848,630 at June 30, 2020, and $2,674,466 at June 30, 2019.

Recently Issued Accounting Pronouncements

In January 2017, the GASB issued GASB Statement No. 84 (Statement No. 84), *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. Statement No. 84 is effective for fiscal years beginning after December 15, 2019.

In June 2017, the GASB issued GASB Statement No. 87 (Statement No. 87), *Leases*. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset. Statement No. 87 is effective for fiscal years beginning after June 15, 2021.

In June 2018, the GASB issued GASB Statement No. 89 (Statement No. 89), *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period, and to simplify accounting for interest cost incurred before the end of a construction period. Statement No. 89 is effective for fiscal years beginning after December 15, 2020.

In August 2018, the GASB issued GASB Statement No. 90 (Statement No. 90), *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61.* The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. Statement No. 90 is effective for fiscal years beginning after December 15, 2019.

In May 2019, the GASB issued GASB Statement No. 91 (Statement No. 91), *Conduit Debt Obligations.* The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. Statement No. 91 is effective for fiscal years beginning after December 15, 2021.

In January 2020, the GASB issued GASB Statement No. 92 (Statement No. 92), *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. Certain provisions of Statement No. 92 were effective immediately. Paragraphs 6, 7, 8, 9, and 12 are effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 93 (Statement No. 93), *Replacement of Interbank Offered Rates.* This Statement establishes accounting and financial reporting requirements related to the replacement of IBORs in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. Statement No. 93 is effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 94 (Statement No. 94), *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by improving the comparability of financial statements among governments that enter in PPPs and APAs. Statement No. 94 is effective for fiscal years beginning after June 15, 2022.

In May 2020, the GASB issued GASB Statement No. 96 (Statement No. 96), *Subscription-Based Information Technology Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by (a) establishing uniform accounting and financial reporting requirements for SBITAs; (b) improving the comparability of financial statements among governments that have entered into SBITAs; and (c) enhancing the understandability, reliability, relevance, and consistency of information about SBITAs. Statement No. 96 is effective for fiscal years beginning after June 15, 2022.

In June 2020, the GASB issued GASB Statement No. 97 (Statement No. 97), *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* The objectives of this Statement are to (a) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (b) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (c) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. Statement No. 97 is effective for fiscal years beginning after June 15, 2021.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures—an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

Interest Rate Risk. KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

Credit Risk. KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital.

Custodial Credit Risk. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by state law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

	2020	**2019**
Current assets		
Cash and cash equivalents	$ 43,327,171	$ 25,457,569
Short-term investments	-	14,989,200
Short-term contingency fund investments	33,653,741	25,929,199
Other assets		
Long-term contingency fund investments	4,771,755	11,359,982
Restricted assets		
Electric bond fund	19,873,134	19,496,697
Other funds	727	10,311
	$ 101,626,528	$ 97,242,958

The above amounts do not include accrued interest of $114,227 in fiscal year 2020 and $199,417 in fiscal year 2019. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions, as of June 30, 2020:

	Deposit and Investment Maturities (in Years)		
	Fair Value	**Less Than 1**	**1-5**
Supersweep NOW and Other Deposits	$ 65,587,132	$ 65,587,132	$ -
State Treasurer's Investment Pool	18,462,467	18,462,467	-
Agency Bonds	20,040,921	15,269,166	4,771,755
	$ 104,090,520	$ 99,318,765	$ 4,771,755

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase of greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2020:

- U.S. Agency bonds of $4,771,755, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

4. Accounts Receivable

Accounts receivable consists of the following:

	2020	2019
Wholesale and retail customers		
Billed services	$ 31,629,304	$ 33,789,883
Unbilled services	20,194,987	19,164,590
Other	1,101,029	1,200,898
Allowance for uncollectible accounts	(430,529)	(411,152)
	$ 52,494,791	$ 53,744,219

5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

	2020	2019
Trade accounts	$ 66,095,573	$ 42,010,867
Salaries and wages	1,893,144	1,687,316
Advances on pole rental	1,262,510	1,224,209
Self-insurance liabilities	825,898	917,526
Other current liabilities	14,328,026	13,611,199
	$ 84,405,151	$ 59,451,117

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6. Long-Term Obligations

Long-term debt consists of the following:

	Balance June 30, 2019	Additions	Payments	Defeased	Balance June 30, 2020	Amounts Due Within One Year
Z-2010 - 1.45 - 6.35%	$ 19,930,000	$ -	$ 1,390,000	$ 17,115,000	$ 1,425,000	$ 1,425,000
AA-2012 - 3.0 - 5.0%	25,835,000	-	2,955,000	-	22,880,000	3,100,000
BB-2012 - 3.0 - 4.0%	31,125,000	-	750,000	-	30,375,000	800,000
CC-2013 - 3.0 - 4.0%	8,085,000	-	500,000	-	7,585,000	515,000
DD-2014 - 2.0 - 4.0%	37,125,000	-	800,000	-	36,325,000	825,000
EE-2015 - 2.0 - 5.0%	27,975,000	-	2,075,000	-	25,900,000	2,135,000
FF-2015 - 2.0 - 5.0%	32,900,000	-	750,000	-	32,150,000	775,000
GG-2016 - 2.0 - 5.0%	38,400,000	-	850,000	-	37,550,000	900,000
HH-2017 - 2.5 - 5.0%	21,500,000	-	1,990,000	-	19,510,000	2,090,000
II-2017 - 3.0 - 5.0%	39,300,000	-	765,000	-	38,535,000	805,000
JJ-2018 - 3.0 - 5.0%	39,995,000	-	775,000	-	39,220,000	815,000
KK-2020 - 5.0%	-	14,380,000	-	-	14,380,000	-
Total bonds	$ 322,170,000	$ 14,380,000	$ 13,600,000	$ 17,115,000	$ 305,835,000	$ 14,185,000
Unamortized Premium	11,673,884	2,896,021	901,731	-	13,668,174	-
Total long term debt	$ 333,843,884	$ 17,276,021	$ 14,501,731	$ 17,115,000	$ 319,503,174	$ 14,185,000

	Balance June 30, 2018	Additions	Payments	Defeased	Balance June 30, 2019	Amounts Due Within One Year
Y-2009 - 2.5 - 5.0%	$ 1,850,000	$ -	$ 1,850,000	$ -	$ -	$ -
Z-2010 - 1.45 - 6.35%	21,285,000	-	1,355,000	-	19,930,000	1,390,000
AA-2012 - 3.0 - 5.0%	28,640,000	-	2,805,000	-	25,835,000	2,955,000
BB-2012 - 3.0 - 4.0%	31,850,000	-	725,000	-	31,125,000	750,000
CC-2013 - 3.0 - 4.0%	8,560,000	-	475,000	-	8,085,000	500,000
DD-2014 - 2.0 - 4.0%	37,900,000	-	775,000	-	37,125,000	800,000
EE-2015 - 2.0 - 5.0%	28,125,000	-	150,000	-	27,975,000	2,075,000
FF-2015 - 2.0 - 5.0%	33,625,000	-	725,000	-	32,900,000	750,000
GG-2016 - 2.0 - 5.0%	39,225,000	-	825,000	-	38,400,000	850,000
HH-2017 - 2.5 - 5.0%	23,390,000	-	1,890,000	-	21,500,000	1,990,000
II-2017 - 3.0 - 5.0%	40,000,000	-	700,000	-	39,300,000	765,000
JJ-2018 - 3.0 - 5.0%	-	39,995,000	-	-	39,995,000	775,000
Total bonds	$ 294,450,000	$ 39,995,000	$ 12,275,000	$ -	$ 322,170,000	$ 13,600,000
Unamortized Premium	12,031,042	516,151	873,309	-	11,673,884	-
Total long term debt	$ 306,481,042	$ 40,511,151	$ 13,148,309	$ -	$ 333,843,884	$ 13,600,000

Debt service over remaining term of the debt is as follows:

Fiscal Year		Principal		Total Interest		Grand Total
2021	$	14,185,000	$	10,837,513	$	25,022,513
2022		14,545,000		9,980,106		24,525,106
2023		15,180,000		9,322,106		24,502,106
2024		15,815,000		8,674,181		24,489,181
2025		16,455,000		8,074,831		24,529,831
2026-2030		72,000,000		32,251,758		104,251,758
2031-2035		42,130,000		22,679,783		64,809,783
2036-2040		46,490,000		15,694,087		62,184,087
2041-2045		51,190,000		7,340,132		58,530,132
2046-2048		17,845,000		776,627		18,621,627
Total	$	305,835,000	$	125,631,124	$	431,466,124

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet the revenue bonds principal and interest payments when due. Such bond requirements are being met through monthly deposits to the Electric Bond Fund as required by the bond covenants. As of June 30, 2020, these requirements had been satisfied.

During fiscal year 2011, KUB's Electric Division issued Series Z 2010 bonds to fund electric system capital improvements. The bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. These bonds are subject to a reduction in rebate payment amounts which is subject to change based on Congressional action. As of October 1, 2019, the effective reduction in rebate is 5.9 percent.

During fiscal year 2019, KUB's Electric Division issued Series JJ 2018 bonds to fund electric system capital improvements.

During fiscal year 2020, KUB's Electric Division issued Series KK 2020 bonds to retire a portion of outstanding Series Z 2010 bonds, as follows. On May 22, 2020, $14.4 million in revenue refunding bonds with an average interest rate of 5 percent were issued to advance refund $17.1 million of outstanding bonds with an average interest rate of 5.8 percent. The net proceeds of $17.1 million (after payment of $0.2 million in issuance costs plus premium of $2.9 million) were used to purchase U.S. government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for future debt service payments on the bonds, with the exception of the July 1, 2020 debt service payment. As a result, the remaining bonds are considered to be refunded and the liability of $17.1 million for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 11 years by $2.4 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $2.2 million.

Other liabilities consist of the following:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
TVA conservation program	$ 3,082,829	$ 176,370	$ (1,235,251)	$ 2,023,948
Accrued compensated absences	4,231,203	7,809,987	(7,316,916)	4,724,274
Customer advances for construction	6,081,864	2,265,866	(1,062,220)	7,285,510
Other	36,986	105,163	(38,505)	103,644
	$ 13,432,882	$ 10,357,386	$ (9,652,892)	$ 14,137,376

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
TVA conservation program	$ 4,431,219	$ 229,677	$ (1,578,067)	$ 3,082,829
Accrued compensated absences	4,056,705	8,209,577	(8,035,079)	4,231,203
Customer advances for construction	3,236,413	4,291,911	(1,446,460)	6,081,864
Other	49,817	33,327	(46,158)	36,986
	$ 11,774,154	$ 12,764,492	$ (11,105,764)	$ 13,432,882

7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

2021	$ 158,172
2022	50,595
2023	7,481
2024	6,583
2025	6,583
Total operating minimum lease payments	$ 229,414

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8. Capital Assets

Capital asset activity was as follows:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Distribution Plant				
Services and Meters	$ 80,127,124	$ 10,833,316	$ (14,480,087)	$ 76,480,353
Electric Station Equipment	162,076,580	11,097,794	(1,016,847)	172,157,527
Poles, Towers and Fixtures	190,331,961	8,214,374	(1,483,237)	197,063,098
Overhead Conductors	159,466,936	6,401,128	(4,299,228)	161,568,836
Line Transformers	103,617,680	2,488,983	(1,010,136)	105,096,527
Other Accounts	186,331,981	10,535,773	(3,503,346)	193,364,408
Total Distribution Plant	$ 881,952,262	$ 49,571,368	$ (25,792,881)	$ 905,730,749
General Plant	93,805,418	24,003,579	(271,846)	117,537,151
Total Plant Assets	$ 975,757,680	$ 73,574,947	$ (26,064,727)	$ 1,023,267,900
Less Accumulated Depreciation	(436,855,568)	(31,479,777)	26,618,461	(441,716,884)
Net Plant Assets	$ 538,902,112	$ 42,095,170	$ 553,734	$ 581,551,016
Work In Progress	95,383,751	74,140,604	(73,882,045)	95,642,310
Total Net Plant	$ 634,285,863	$ 116,235,774	$ (73,328,311)	$ 677,193,326

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
Distribution Plant				
Services and Meters	$ 65,695,105	$ 14,634,939	$ (202,920)	$ 80,127,124
Electric Station Equipment	158,378,701	4,513,155	(815,276)	162,076,580
Poles, Towers and Fixtures	176,892,740	15,553,101	(2,113,880)	190,331,961
Overhead Conductors	155,165,531	12,895,084	(8,593,679)	159,466,936
Line Transformers	101,994,883	2,854,573	(1,231,776)	103,617,680
Other Accounts	180,936,153	8,717,868	(3,322,040)	186,331,981
Total Distribution Plant	$ 839,063,113	$ 59,168,720	$ (16,279,571)	$ 881,952,262
General Plant	90,918,370	4,781,626	(1,894,578)	93,805,418
Total Plant Assets	$ 929,981,483	$ 63,950,346	$ (18,174,149)	$ 975,757,680
Less Accumulated Depreciation	(423,269,910)	(33,451,708)	19,866,050	(436,855,568)
Net Plant Assets	$ 506,711,573	$ 30,498,638	$ 1,691,901	$ 538,902,112
Work In Progress	75,030,834	85,135,838	(64,782,921)	95,383,751
Total Net Plant	$ 581,742,407	$ 115,634,476	$ (63,091,020)	$ 634,285,863

9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2020 and June 30, 2019, the amount of these liabilities was $825,898 and $917,526, respectively, resulting from the following changes:

	2020	2019
Balance, beginning of year	$ 917,526	$ 874,891
Current year claims and changes in estimates	7,184,747	8,245,948
Claims payments	(7,276,375)	(8,203,313)
Balance, end of year	$ 825,898	$ 917,526

10. Pension Plan

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	2018
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provides retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $1,241,196 and $1,515,197 are attributable to the Electric Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

Net Pension Liability

The below summarizes the disclosures of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the net pension asset at June 30, 2020 is $9,178,260, and the net pension liability at June 30, 2019 is $3,191,883.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

	2019	2018
Total pension liability	$ 226,818,557	$ 212,157,951
Plan fiduciary net position	(245,939,932)	(205,508,195)
Plan's net pension liability (asset)	$ (19,121,375)	$ 6,649,756
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%

Changes in Net Pension Liability are as follows:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at December 31, 2018	$ 212,157,951	$ 205,508,195	$ 6,649,756
Changes for the year:			
Service cost	6,142,213	-	6,142,213
Interest	16,030,626	-	16,030,626
Changes of Benefits	163,199	-	163,199
Differences between Expected and Actual Experience	(1,054,117)	-	(1,054,117)
Changes of Assumptions	8,473,160	-	8,473,160
Contributions - employer	-	2,871,241	(2,871,241)
Contributions - rollovers	-	3,167,836	(3,167,836)
Contributions - member	-	2,989	(2,989)
Net investment income	-	49,951,894	(49,951,894)
Benefit payments	(15,094,475)	(15,094,475)	-
Administrative expense	-	(467,748)	467,748
Net changes	14,660,606	40,431,737	(25,771,131)
Balances at December 31, 2019	$ 226,818,557	$ 245,939,932	$ (19,121,375)

Actuarial Assumptions
The total pension liability was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	January 1, 2019, rolled forward to December 31, 2019; January 1, 2018, rolled forward to December 31, 2018
Discount rate	7.25% as of December 31, 2019; 7.50% as of December 31, 2018
Salary increase	From 2.50% to 5.65%, based on years of service as of December 31, 2019; from 2.80% to 5.15%, based on years of service as of December 31, 2018
Mortality	115% and 110% of the PubG-2010 table, for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019; 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on an actuarial experience study covering the period January 1, 2014 through December 31, 2018. The discount rate was subsequently reduced from 7.5 percent to 7.25 percent as of the December 31, 2019 measurement date. The Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), effective January 1, 2020.

The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2019 and 2018 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

	Long Term Expected Real Rate of Return	
Asset Class	**2019**	**2018**
Domestic equity	5.5%	5.8%
Non-U.S. equity	6.4%	6.9%
Real estate equity	5.9%	6.0%
Debt securities	1.5%	1.7%
Cash and deposits	0.6%	0.7%

Discount rate
The discount rate used to measure the total pension liability was 7.25 percent as of December 31, 2019, and 7.5 percent as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate
The following presents the net pension liability of the Plan as of December 31, 2019, calculated using the discount rate of 7.25 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.25 percent) or one percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Plan's net pension liability (surplus)	$ 946,692	$ (19,121,375)	$ (36,452,396)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of $2,673,376 (Division's share $1,283,220).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5.00 years. During the measurement year, there was an experience gain of $1,054,117, with $210,822 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $843,295 (Division's share $404,782). Unrecognized experience gains from prior periods were $2,408,388, of which $1,163,381 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,245,007 (Division's share $597,603).

During the measurement year, there was an assumption change loss of $8,473,160, with $1,694,632 of that recognized in the current year and each of the next four years, resulting in a deferred outflow of $6,778,528 (Division's share $3,253,693). Unrecognized assumption change decreases from prior periods were $1,387,733, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $729,629 (Division's share $350,222).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $34,889,331, of which $6,977,866 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment losses from prior periods were $15,614,774, of which $5,418,519 was recognized as an increase in pension expense in the current year. The combination of unrecognized investment gains this year along with the net unrecognized investment losses from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2019 of $17,715,210 (Division's share $8,503,301). The following table summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $1,292,915 (Division's share $620,600) at June 30, 2020 for employer contributions made between December 31, 2019 and June 30, 2020.

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	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,088,302
Changes in assumptions	6,778,528	729,629
Net difference between projected and actual earnings on pension plan investments	-	17,715,210
Contributions subsequent to measurement date	1,292,915	-
Total	$ 8,071,443	$ 20,533,141
Division's share	$ 3,874,293	$ 9,855,908

$1,292,915 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ (4,595,539)
2022	(3,722,647)
2023	57,633
2024	(5,494,060)
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $4,128,608 (Division's share $1,981,732).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5.00 years. During the measurement year, there was an experience gain of $605,649, with $121,129 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $484,520 (Division's share $232,570). Unrecognized experience gains from prior periods were $2,966,120, of which $1,042,251 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,923,868 (Division's share $923,456).

During the measurement year, there were no benefit changes or assumption changes. Unrecognized assumption change decreases from prior periods were $2,045,837, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,387,733 (Division's share $666,112).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $28,364,098, of which $5,672,818 was recognized in the current year and an identical amount will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $8,925,385, of which $1,848,879 was recognized as a decrease in pension expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2018 of $15,614,774 (Division's share $7,495,092).

The following table summarizes the current balances of deferred outflows and deferred inflows of resources. In addition, KUB recorded a deferred outflow of resources of $1,578,332 (Division's share $757,599) at June 30, 2019 for employer contributions made between December 31, 2018 and June 30, 2019.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,408,388
Changes in assumptions	-	1,387,733
Net difference between projected and actual earnings on pension plan investments	15,614,774	-
Contributions subsequent to measurement date	1,578,332	-
Total	$ 17,193,106	$ 3,796,121
Division's share	$ 8,252,691	$ 1,822,138

11. Qualified Excess Benefit Arrangement

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $9,713 at June 30, 2020, and $111,304 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease)	
	Total Pension Liability	
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions

The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate
The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate
The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	**Current Discount Rate (2.74%)**	**1% Increase (3.74%)**
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $95,567). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $12). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $10,403) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $2,627) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $104,771). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $5,124). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $6,610) and a deferred outflow of $29,385 (Division's share $14,105) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $2,920).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445
Division's share	$ 24,788	$ 17,013

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division’s share $2,920). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division’s share $14,181). This amount is not expected to be the same as KUB’s contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB’s Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division’s share $13,872). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division’s share $3,941).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division’s share $8,813). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division’s share $21,157). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division’s share $3,476).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 28,574	$ 22,685

12. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the “401(k) Plan”) is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan’s assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of 3 percent to 6 percent, depending on years of service, whether they contribute or not.

KUB funded 401(k) matching contributions and nonelective contributions of $2,469,273 (Division’s share $1,185,251) and $2,410,201 (Division’s share $1,156,897), respectively, for the years ended June 30, 2020 and 2019.

13. Other Post-Employment Benefits (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB’s President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB’s Board of Commissioners, upon recommendation by KUB’s President and CEO. All other amendments to the Trust may be approved by KUB’s President and CEO upon 60 days notification to the Board’s Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division’s share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the “Rule of 80”, the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB’s current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust’s Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust’s Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust’s adopted investment target allocations as set forth in the Trust’s Investment Policy as of June 30, 2020:

Asset Class	**Target Allocation**
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division’s share $149,436). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan’s actuarial valuations as of January 1, 2018, and 2017.

Net OPEB Liability

The below summarizes the disclosures of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* (“GASB 75”), which requires measurement of the net OPEB liability as total OPEB liability less the amount of the Trust’s fiduciary net position. The amounts reported as of June 30 are based on the reporting date for the KUB Other Post-Employment Benefits Plan which is June 30. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and 2019 and the Total OPEB Liability as of the valuation date, January 1, 2019 updated to June 30, 2020, and January 1, 2018 updated to June 30, 2019, respectively. The Division’s share of the total net OPEB liability was $3,642,935 at June 30, 2020 and $694,916 at June 30, 2019. There was one significant event between the valuation date and the measurement date for June 30, 2020 where the discount rate was reduced from 7.5% to 7.25%.

The components of the net OPEB liability of the Trust are as follows as of June 30:

	2020	**2019**
Total OPEB liability	$ 54,544,240	$ 50,197,938
Plan fiduciary net position	46,954,793	48,750,196
Net OPEB liability	$ 7,589,447	$ 1,447,742
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%

Changes in Net OPEB Liability are as follows:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB Liability (Asset) (a) - (b)
Balances at June 30, 2019	$ 50,197,938	$ 48,750,196	$ 1,447,742
Changes for the year:			
Service cost	256,270	-	256,270
Interest	3,672,291	-	3,672,291
Changes of Benefits	(202,408)	-	(202,408)
Differences between Expected and Actual Experience	43,902	-	43,902
Changes of Assumptions	3,604,843	-	3,604,843
Contributions - employer	-	311,324	(311,324)
Contributions - member	-	-	-
Net investment income	-	975,155	(975,155)
Benefit payments	(3,028,596)	(3,028,596)	-
Administrative expense	-	(53,286)	53,286
Net changes	4,346,302	(1,795,403)	6,141,705
Balances at June 30, 2020	$ 54,544,240	$ 46,954,793	$ 7,589,447

Actuarial assumptions

The total OPEB liability was determined by actuarial valuations, using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation dates:	January 1, 2019, updated to June 30, 2020; January 1, 2018, updated to June 30, 2019
Discount rate:	7.25% as of January 1, 2019; 7.5% as of January 1, 2018
Healthcare cost trend rates:	Pre-Medicare: 7.83% grading down to 4.50% over 19 years as of January 1, 2019; 8.00% grading down to 4.50% over 20 years as of January 1, 2018 Medicare: 6.88% grading down to 4.50% over 19 years as of January 1, 2019; 7.00% grading down to 4.50% over 20 years as of January 1, 2018 Administrative expenses: 3.0% per year
Salary increases:	From 2.50% to 5.65%, based on years of service as of January 1, 2019; From 2.80% to 5.15%, based on years of service as of January 1, 2018

Mortality:	115% and 110% of the Public Sector Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table (PubG-2010) for ages prior to the start of the Health Annuitant Mortality Table, both projected using scale MP2018 fully generational as of January 1, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of January 1, 2018
Inflation:	2.5% as of January 1, 2019; 2.8% as of January 1, 2018

The actuarial assumptions used in the January 1, 2019 and January 1, 2018 valuations were based on the results of actuarial experience studies for the periods January 1, 2014 through December 31, 2018 and January 1, 2009 through December 31, 2013, respectively. The discount rate was subsequently reduced to 7.25 percent from 7.50 percent as of January 1, 2020; therefore, the new rate was used to calculate the OPEB liability as of June 30, 2020.

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Trust investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return may be lower in periods of current strong performance due to future valuations that mean revert to the long-term average. Best estimates of arithmetic real rates of return for each major asset class included in the Trust's target asset allocation (see the discussion of the Trust's Investment Policy) are summarized in the chart below.

	Long Term Expected Real Rate of Return	
Asset Class	**2020**	**2019**
Domestic equity	5.4%	5.5%
International equity	6.4%	6.4%
Real estate equity	5.8%	5.9%
Debt securities	0.2%	1.5%
Cash and deposits	(0.2%)	0.6%

Discount rate

The discount rate used to measure the total OPEB liability was 7.25 percent and 7.5 percent as of June 30, 2020 and 2019, respectively. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on Trust investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the net OPEB liability to changes in the discount rate.
The following presents the net OPEB liability of the Trust as of June 30, 2020, calculated using the discount rate of 7.25 percent, as well as what the Trust's net OPEB liability would be if it were calculated using a discount rate that is 1 percent lower (6.25 percent) or 1 percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Net OPEB liability	$ 12,643,555	$ 7,589,447	$ 3,282,461

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.
The following presents the net OPEB liability of the Trust as of June 30, 2020, as well as what the Trust's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1 percent lower or 1 percent higher than the current rate:

	1% Decrease	**Baseline Trends**	**1% Increase**
Net OPEB liability	$ 2,482,856	$ 7,589,447	$ 13,485,387

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2020, KUB recognized OPEB expense of $4,767,499 (Division's share $2,288,399).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $43,902, with $21,951 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $21,951 (Division's share $10,536). Unrecognized experience losses from prior periods were $499,549, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were benefit changes that decreased the expense by $202,408. There was an increase in the Total OPEB Liability due to assumption changes of $3,604,843, with $1,802,422 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,802,421 (Division's share $865,162). Unrecognized assumption changes from prior periods were $1,615,800, of which the entire amount is recognized as an increase in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $2,579,092, of which $515,818 was recognized in the current year and will be recognized in each of the next four years, resulting in a deferred outflow of resources as of June 30, 2020 of $2,063,274 (Division's share $990,371). Net unrecognized investment losses from prior periods were $377,831, of which $86,767 was recognized as an increase in OPEB expense in the current year and resulting in a net deferred outflow of $291,064 (Division's share $139,712). The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 21,951	$ -
Changes in assumptions	1,802,421	-
Net difference between projected and actual earnings on OPEB plan investments	2,354,338	-
Total	$ 4,178,710	$ -
Division's share	$ 2,005,781	$ -

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:	
2021	$ 2,426,957
2022	602,586
2023	633,347
2024	515,820
2025	-
Thereafter	-

For the year ended June 30, 2019, KUB recognized OPEB expense of $3,046,377 (Division’s share $1,462,261).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $999,098, with $499,549 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $499,549 (Division’s share $239,783). Unrecognized experience losses from prior periods were $662,384, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were no benefit changes. There was an increase in the Total OPEB Liability due to assumption changes of $3,231,601, with $1,615,801 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,615,800 (Division’s share $775,584). Unrecognized assumption changes from prior periods were ($198,590), of which the entire amount is recognized as a decrease in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $587,645, of which $117,529 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $123,047, of which $30,762 was recognized as a decrease in OPEB expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on OPEB plan investments as of June 30, 2019 of $377,831 (Division’s share $181,359). The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 499,549	$ -
Changes in assumptions	1,615,800	-
Net difference between projected and actual earnings on OPEB plan investments	377,831	-
Total	$ 2,493,180	$ -
Division's share	$ 1,196,726	$ -

14. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2020 and 2019 are summarized as follows:

	2020	**2019**
City of Knoxville		
Amounts billed by the Division for utilities and related services	$ 5,879,568	$ 7,115,980
Payments by the Division in lieu of property tax	8,189,287	8,422,155
Payments by the Division for services provided	66,529	96,839
Other divisions of KUB		
Amounts billed to other divisions for utilities and related services provided	6,688,070	6,113,820
Interdivisional rental expense	69,286	-
Interdivisional rental income	2,190,576	791,721
Amounts billed to the Division by other divisions for utilities services provided	185,557	180,580

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were as follows:

	2020	**2019**
Accounts receivable	$ 324,574	$ 308,867

15. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

16. Risks and Uncertainties

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation as federal, state, and local governments react to the public health crisis, creating significant uncertainties in the economy. This situation is rapidly changing, and additional impacts may arise. While the disruption is currently expected to be temporary, there is uncertainty around its duration. The ultimate future impact, if any, of the pandemic on results of operations, financial position, liquidity or capital resources cannot be reasonably estimated at this time.

Knoxville Utilities Board Electric Division
Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31					
	2019	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability						
Service cost	$ 6,142,213	$ 5,095,488	$ 4,607,486	$ 4,226,985	$ 4,157,062	$ 4,092,808
Interest	16,030,626	15,344,193	15,015,282	14,966,559	14,812,784	14,698,657
Changes of benefit terms	163,199	-	-	-	-	-
Differences between expected and actual experience	(1,054,117)	(605,649)	(1,087,161)	(2,233,762)	(1,890,334)	-
Changes of assumptions	8,473,160	-	(357,633)	(2,932,883)	-	-
Benefit payments, including refunds of member contributions	(15,094,475)	(15,274,814)	(14,969,979)	(14,138,511)	(15,350,926)	(15,533,167)
Net change in total pension liability	14,660,606	4,559,218	3,207,995	(111,612)	1,728,586	3,258,298
Total pension liability - beginning	212,157,951	207,598,733	204,390,738	204,502,350	202,773,764	199,515,466
Total pension liability - ending (a)	$ 226,818,557	$ 212,157,951	$ 207,598,733	$ 204,390,738	$ 204,502,350	$ 202,773,764
Plan fiduciary net position						
Contributions - employer	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contributions - participants	3,170,825	2,081,125	1,488,632	555,075	487,546	475,854
Net investment income	49,938,315	(11,748,396)	32,360,219	13,788,263	(95,430)	22,292,369
Other additions	13,579	62,616	82,239	45,848	30,879	29,733
Benefit payments, including refunds of member contributions	(15,030,475)	(15,174,814)	(14,895,979)	(14,044,511)	(15,274,926)	(15,405,167)
Administrative expense	(467,748)	(445,916)	(385,282)	(441,332)	(397,160)	(378,085)
Death benefits	(64,000)	(100,000)	(74,000)	(94,000)	(76,000)	(128,000)
Net change in plan fiduciary net position**	40,431,737	(21,868,910)	22,862,426	5,052,489	(9,333,204)	12,795,245
Plan fiduciary net position - beginning**	205,508,195	227,377,105	204,514,679	199,462,190	208,795,394	196,000,149
Plan fiduciary net position - ending (b)**	$ 245,939,932	$ 205,508,195	$ 227,377,105	$ 204,514,679	$ 199,462,190	$ 208,795,394
Plan's net pension liability - ending (a) - (b)	$ (19,121,375)	$ 6,649,756	$ (19,778,372)	$ (123,941)	$ 5,040,160	$ (6,021,630)
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%	109.53%	100.06%	97.54%	102.97%
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Plan's net pension liability as a percentage of covered payroll	(47.48%)	15.78%	(45.67%)	(0.28%)	11.34%	(13.66%)

Notes to Schedule:

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

Knoxville Utilities Board Electric Division

Required Supplementary Information – Schedule of Employer Pension Contributions

June 30, 2020

	*Year ended December 31					
	2019	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contribution in relation to the actuarially determined contribution	2,871,241	3,456,475	4,286,597	5,243,146	5,991,887	5,908,541
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Contributions as a percentage of covered payroll	7.13%	8.20%	9.90%	11.80%	13.48%	13.41%

Notes to Schedule:

Timing:	Actuarially determined contributions for a Plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior Plan years.
Valuation Dates:	January 1, 2018 and January 1, 2017

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Individual entry age
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 23 years remaining (24 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative.
Discount rate:	7.5%
Salary increases:	2.80% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014.
Please refer to prior year's audited financial statements for prior methods and assumptions.

Knoxville Utilities Board Electric Division

Required Supplementary Information – Schedule of Changes in Net OPEB Liability and Related Ratios

June 30, 2020

	*Year ended June 30 2020	2019	2018
Total OPEB liability			
Service cost	$ 256,270	$ 270,515	$ 202,603
Interest	3,672,291	3,624,737	3,295,240
Change of benefit terms	(202,408)	-	-
Differences between expected and actual experience	43,902	999,098	1,324,769
Changes of assumptions	3,604,843	3,231,601	(397,180)
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Net change in total OPEB liability	4,346,302	4,593,507	1,126,693
Total OPEB liability - beginning	50,197,938	45,604,431	44,477,738
Total OPEB liability - ending (a)	$ 54,544,240	$ 50,197,938	$ 45,604,431
Plan fiduciary net position			
Contributions - employer	$ 311,324	$ -	$ -
Net investment income	975,155	2,981,928	3,705,473
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Administrative expense	(53,286)	(54,787)	(51,668)
Net change in plan fiduciary net position	(1,795,403)	(605,303)	355,066
Plan fiduciary net position - beginning	48,750,196	49,355,499	49,000,433
Plan fiduciary net position - ending (b)	$ 46,954,793	$ 48,750,196	$ 49,355,499
Net OPEB liability (asset) - ending (a) - (b)	$ 7,589,447	$ 1,447,742	$ (3,751,068)
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%	108.23%
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Net OPEB liability (asset) as a percentage of covered employee payroll	32.48%	5.95%	(15.84%)

Notes to Schedule:

* Information not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.

Knoxville Utilities Board Electric Division
Required Supplementary Information – Schedule of Employer OPEB Contributions
June 30, 2020

	*Year ended June 30		
	2020	**2019**	**2018**
Actuarially determined contribution	$ 311,324	$ -	$ -
Contribution in relation to the annual required contribution	311,324	-	-
Contribution deficiency/(excess)	$ -	$ -	$ -
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Contributions as a percentage of covered employee payroll	1.33%	0.00%	0.00%

Notes to Schedule:

Valuation Date:	January 1, 2018 and January 1, 2017
Timing:	Actuarially determined contribution rates are calculated based on the actuarial valuation completed 18 months before the beginning of the fiscal year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Entry age normal
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 18 years remaining as of January 1, 2018 (19 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative
Discount rate:	7.5%
Healthcare cost trend rate:	Pre-Medicare: 8% grading down to 4.5% over 20 years as of January 1, 2018; 7.83% to 4.5% over 19 years as of January 1, 2017 Medicare: 7% grading down to 4.5% over 20 years as of January 1, 2018; 6.88% to 4.5% over 19 years as of January 1, 2017 Administrative expenses: 3.0% per year
Salary increases:	From 2.8% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%
Investment rate of return:	7.5%
Retirement age:	2% at ages 50-57 at January 1, 2018 and January 1, 2017, respectively, grading up to 100% at age 70

* Schedule of Employer Contribution information is not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.
Please refer to prior year's audited financial statement for prior methods and assumptions.

Knoxville Utilities Board Electric Division
Required Supplementary Information – Qualified Governmental Excess Benefit Arrangement
Schedule of Changes in Total Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31			
	2019	2018	2017	2016
Total pension liability				
Service cost	$ -	$ 941	$ 584	$ -
Interest (includes interest on service cost)	9,181	9,676	7,535	-
Changes of benefit terms	(218,272)	-	-	185,077
Differences between expected and actual experience	34	(36,125)	13,684	-
Changes of assumptions	13,342	(22,950)	73,461	-
Benefit payments, including refunds of member contributions	(15,932)	-	-	-
Net change in total pension liability	(211,647)	(48,458)	95,264	185,077
Total pension liability - beginning	231,883	280,341	185,077	-
Total pension liability - ending	$ 20,236	$ 231,883	$ 280,341	$ 185,077
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747
Total pension liability as a percentage of covered payroll	0.05%	0.55%	0.65%	0.42%

Notes to Schedule:

* There are no assets accumulated in a trust that meet the criteria in paragraph 4 of GASB 73 to pay related benefits.

Knoxville Utilities Board Electric Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

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	Z-2010			AA-2012		BB-2012		CC-2013		DD-2014		EE-2015	
FY	**Principal**	**Interest**	**Rebate***	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**
20-21	1,425,000	520,065	171,283	3,100,000	791,463	800,000	911,500	515,000	227,800	825,000	1,282,369	2,135,000	863,825
21-22				3,270,000	632,213	825,000	879,000	540,000	206,700	875,000	1,256,619	2,235,000	788,100
22-23				3,415,000	482,163	875,000	849,375	560,000	187,500	900,000	1,221,119	2,300,000	708,250
23-24				3,540,000	360,763	900,000	822,750	575,000	170,475	950,000	1,184,119	2,415,000	590,375
24-25				3,640,000	253,063	950,000	795,000	590,000	153,000	975,000	1,145,619	2,555,000	478,900
25-26				1,105,000	180,506	975,000	766,125	640,000	134,550	1,025,000	1,110,744	2,670,000	387,750
26-27				1,140,000	144,025	1,025,000	736,125	650,000	115,200	1,075,000	1,079,244	2,735,000	306,675
27-28				1,180,000	106,325	1,075,000	704,625	670,000	95,400	1,125,000	1,046,244	2,850,000	222,900
28-29				1,225,000	65,713	1,125,000	671,625	675,000	75,225	1,175,000	1,011,744	2,955,000	135,825
29-30				1,265,000	22,138	1,175,000	637,125	710,000	54,450	1,225,000	975,744	3,050,000	45,750
30-31						1,225,000	601,125	725,000	32,925	1,275,000	938,244		
31-32						1,275,000	563,625	735,000	11,025	1,325,000	897,919		
32-33						1,325,000	524,625			1,375,000	854,375		
33-34						1,375,000	484,125			1,450,000	808,469		
34-35						1,450,000	441,750			1,500,000	759,594		
35-36						1,500,000	397,500			1,575,000	707,703		
36-37						1,575,000	351,375			1,650,000	652,250		
37-38						1,625,000	303,375			1,725,000	593,188		
38-39						1,700,000	253,500			1,800,000	531,500		
39-40						1,775,000	201,375			1,875,000	462,500		
40-41						1,850,000	147,000			1,950,000	386,000		
41-42						1,950,000	90,000			2,025,000	306,500		
42-43						2,025,000	30,375			2,125,000	223,500		
43-44										2,225,000	136,500		
44-45										2,300,000	46,000		
45-46													
46-47													
47-48													
Total	$ 1,425,000	$ 520,065	$ 171,283	$ 22,880,000	$ 3,038,372	$ 30,375,000	$ 12,163,000	$ 7,585,000	$ 1,464,250	$ 36,325,000	$ 19,617,807	$ 25,900,000	$ 4,528,350

*Series Z-2010 bonds were issued as federally taxable Build America Bonds. KUB is scheduled to receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2019 these bonds became subject to a 5.9% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

Knoxville Utilities Board Electric Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

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	FF-2015		GG-2016		HH-2017		II-2017		JJ-2018		KK-2020		Total		Grand Total (P + I)	Grand Total (Less Rebate)
FY	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest		
20-21	775,000	1,336,625	900,000	1,073,938	2,090,000	754,455	805,000	1,262,775	815,000	1,375,306	-	437,392	14,185,000	10,837,513	25,022,513	24,851,230
21-22	800,000	1,297,250	950,000	1,027,688	2,195,000	647,330	845,000	1,221,525	855,000	1,333,556	1,155,000	690,125	14,545,000	9,980,106	24,525,106	24,525,106
22-23	825,000	1,256,625	1,000,000	978,938	2,305,000	534,830	890,000	1,178,150	895,000	1,294,281	1,215,000	630,875	15,180,000	9,322,106	24,502,106	24,502,106
23-24	850,000	1,214,750	1,050,000	927,688	2,400,000	444,205	935,000	1,132,525	930,000	1,257,781	1,270,000	568,750	15,815,000	8,674,181	24,489,181	24,489,181
24-25	900,000	1,171,000	1,100,000	884,938	2,460,000	380,455	985,000	1,084,525	965,000	1,224,706	1,335,000	503,625	16,455,000	8,074,831	24,529,831	24,529,831
25-26	925,000	1,125,375	1,125,000	857,188	2,560,000	285,705	1,035,000	1,034,025	1,005,000	1,185,106	1,400,000	435,250	14,465,000	7,502,324	21,967,324	21,967,324
26-27	950,000	1,078,500	1,150,000	834,438	2,695,000	154,330	1,075,000	992,025	1,055,000	1,133,606	1,460,000	363,750	15,010,000	6,937,918	21,947,918	21,947,918
27-28	975,000	1,030,375	1,175,000	811,188	2,805,000	43,478	1,110,000	959,250	1,100,000	1,090,731	1,525,000	289,125	15,590,000	6,399,641	21,989,641	21,989,641
28-29	1,025,000	985,500	1,200,000	787,437			1,140,000	925,500	1,130,000	1,057,281	1,595,000	211,125	13,245,000	5,926,975	19,171,975	19,171,975
29-30	1,050,000	944,000	1,200,000	762,687			1,175,000	890,775	1,165,000	1,022,856	1,675,000	129,375	13,690,000	5,484,900	19,174,900	19,174,900
30-31	1,100,000	901,000	1,250,000	731,187			1,215,000	854,925	1,200,000	986,631	1,750,000	43,750	9,740,000	5,089,787	14,829,787	14,829,787
31-32	1,125,000	856,500	1,275,000	693,312			1,250,000	817,950	1,240,000	947,731			8,225,000	4,788,062	13,013,062	13,013,062
32-33	1,175,000	810,500	1,325,000	654,312			1,285,000	779,925	1,285,000	905,897			7,770,000	4,529,634	12,299,634	12,299,634
33-34	1,225,000	762,500	1,350,000	614,187			1,325,000	740,775	1,330,000	860,938			8,055,000	4,270,994	12,325,994	12,325,994
34-35	1,250,000	713,000	1,400,000	572,937			1,365,000	700,425	1,375,000	813,600			8,340,000	4,001,306	12,341,306	12,341,306
35-36	1,300,000	662,000	1,450,000	535,625			1,410,000	658,800	1,420,000	766,463			8,655,000	3,728,091	12,383,091	12,383,091
36-37	1,350,000	609,000	1,475,000	500,875			1,450,000	615,900	1,470,000	719,500			8,970,000	3,448,900	12,418,900	12,418,900
37-38	1,400,000	554,000	1,525,000	459,563			1,495,000	571,725	1,520,000	669,963			9,290,000	3,151,814	12,441,814	12,441,814
38-39	1,450,000	497,000	1,550,000	417,313			1,540,000	526,200	1,570,000	617,819			9,610,000	2,843,332	12,453,332	12,453,332
39-40	1,500,000	438,000	1,600,000	377,937			1,590,000	479,250	1,625,000	562,888			9,965,000	2,521,950	12,486,950	12,486,950
40-41	1,550,000	377,000	1,650,000	335,250			1,635,000	430,875	1,685,000	504,963			10,320,000	2,181,088	12,501,088	12,501,088
41-42	1,600,000	314,000	1,675,000	289,531			1,685,000	381,075	1,745,000	444,938			10,680,000	1,826,044	12,506,044	12,506,044
42-43	1,675,000	248,500	1,725,000	242,781			1,740,000	329,700	1,805,000	382,813			11,095,000	1,457,669	12,552,669	12,552,669
43-44	1,725,000	180,500	1,775,000	194,656			1,790,000	275,631	1,870,000	318,500			9,385,000	1,105,787	10,490,787	10,490,787
44-45	1,800,000	110,000	1,825,000	142,875			1,850,000	218,756	1,935,000	251,913			9,710,000	769,544	10,479,544	10,479,544
45-46	1,850,000	37,000	1,900,000	87,000			1,910,000	160,006	2,005,000	182,963			7,665,000	466,969	8,131,969	8,131,969
46-47			1,950,000	29,250			1,970,000	98,151	2,075,000	111,563			5,995,000	238,964	6,233,964	6,233,964
47-48							2,035,000	33,069	2,150,000	37,625			4,185,000	70,694	4,255,694	4,255,694
Total	$ 32,150,000	$ 19,510,500	$ 37,550,000	$ 15,824,719	$ 19,510,000	$ 3,244,788	$ 38,535,000	$ 19,354,213	$ 39,220,000	$ 22,061,918	$ 14,380,000	$ 4,303,142	$ 305,835,000	$ 125,631,124	$ 431,466,124	$ 431,294,841

Knoxville Utilities Board Electric Division
Supplemental Information - Schedule of Changes in Long-term Debt by Individual Issue
June 30, 2020

Description of Indebtedness	Original Amount of Issue	Interest Rate	Date of Issue	Last Maturity Date	Outstanding Balance 7/1/2019	Issued During Period	Paid/Matured During Period	Refunded During Period	Outstanding Balance 6/30/2020
Business-Type Activities									
BONDS PAYABLE									
Payable through Electric Fund									
Revenue Bond, Series Z-2010	30,000,000	1.45-6.35	12/08/10	07/01/30	$ 19,930,000	$	$ 1,390,000	$ 17,115,000	$ 1,425,000
Revenue Bond Refunding, Series AA-2012	36,815,000	3.0-5.0	04/20/12	07/01/29	25,835,000		2,955,000		22,880,000
Revenue Bond, Series BB-2012	35,000,000	3.0-4.0	12/18/12	07/01/42	31,125,000		750,000		30,375,000
Revenue Bond Refunding, Series CC-2013	9,660,000	3.0-4.0	03/15/13	07/01/31	8,085,000		500,000		7,585,000
Revenue Bond, Series DD-2014	40,000,000	2.0-4.0	09/18/14	07/01/44	37,125,000		800,000		36,325,000
Revenue Bond Refunding, Series EE-2015	28,550,000	2.0-5.0	05/01/15	07/01/29	27,975,000		2,075,000		25,900,000
Revenue Bond, Series FF-2015	35,000,000	2.0-5.0	05/20/15	07/01/45	32,900,000		750,000		32,150,000
Revenue Bond, Series GG-2016	40,000,000	2.0-5.0	08/05/16	07/01/46	38,400,000		850,000		37,550,000
Revenue Bond Refunding, Series HH-2017	23,445,000	2.5-5.0	04/07/17	07/01/27	21,500,000		1,990,000		19,510,000
Revenue Bond, Series II-2017	40,000,000	3.0-5.0	09/15/17	07/01/47	39,300,000		765,000		38,535,000
Revenue Bond, Series JJ-2018	39,995,000	3.0-5.0	09/14/18	07/01/47	39,995,000		775,000		39,220,000
Revenue Bond Refunding, Series KK-2020	14,380,000	5.0	05/22/20	07/01/30	-	14,380,000	-		14,380,000
					$ 322,170,000	$ 14,380,000	$ 13,600,000	$ 17,115,000	$ 305,835,000

Knoxville Utilities Board Electric Division

Statistical Information - Schedule of Insurance in Force

June 30, 2020

(Unaudited)

Insurance coverage is for KUB as a consolidated entity.

Crime

Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors' and Officers' Liability Insurance

Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability

Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary

Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), OPEB Trust funds, and Medical Plan. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability

New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance

This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident

Covers losses related to employees' business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability

As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers' Compensation

Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage

KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $575,000 per individual participant.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Residential		Customer Charge:	$22.10 per month, less Hydro Allocation Credit: $1.60 per month.		186,052
		Energy Charge:	Summer Period	$0.08647 per kWh per month.	
			Winter Period	$0.08606 per kWh per month.	
			Transition Period	$0.08606 per kWh per month.	
Commercial/ Industrial	**A. 1.**	If (a) the higher of (i) the customer's currently effective contract demand, if any, or (ii) its highest billing demand during the latest 12-month period is not more than 50 kWh, and (b) customer's monthly energy takings for any month during such period do not exceed 15,000 kWh:			20,029
		Customer Charge:	$29.00 per delivery point per month.		
		Energy Charge:	Summer Period	$0.10691 per kWh per month.	
			Winter Period	$0.10650 per kWh per month.	
			Transition Period	$0.10650 per kWh per month.	
	2.	If (a) the higher of (i) the customer's currently effective contract demand or (ii) its highest billing demand during the latest 12-month period is greater than 50 kW but not more than 1,000 kW, or (b) if the customer's billing demand is less than 50 kW and its energy takings for any month during such period exceed 15,000 kWh:			2,651
		Customer Charge:	$95.00 per delivery point per month.		
		Demand Charge:	First 50 kW of billing demand per month, no demand charge.		
			Excess over 50 kW of billing demand per month, at		
			Summer Period	$15.20 per kW.	
			Winter Period	$14.41 per kW.	
			Transition Period	$14.41 per kW.	
		Energy Charge:	Summer Period	First 15,000 kWh per month at $0.13379 per kWh Additional kWh per month at $.05637 per kWh.	
			Winter Period	First 15,000 kWh per month at $0.13338 per kWh Additional kWh per month at $.05637 per kWh.	
			Transition Period	First 15,000 kWh per month at $0.13338 per kWh Additional kWh per month at $.05637 per kWh.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class				Number of Customers
3.	If (a) the higher of the customer's currently effective contract demand or (b) its highest billing demand during the latest 12-month period is greater than 1,000 kW:			42
	Customer Charge:	$260.00 per delivery point per month.		
	Demand Charge:	Summer Period	First 1,000 kW of billing demand per month, at $15.94 per kW. Excess over 1,000 kW of billing demand per month, at $16.59 per kW, plus an additional $16.59 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand.	
		Winter Period	First 1,000 kW of billing demand per month, at $15.18 per kW. Excess over 1,000 kW of billing demand per month, at $15.83 per kW, plus an additional $15.83 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand.	
		Transition Period	First 1,000 kW of billing demand per month, at $15.18 per kW. Excess over 1,000 kW of billing demand per month, at $15.83 per kW, plus an additional $15.83 per kW per month for each kW, if any, of the amount by which the customer's billing demand exceeds the higher of 2,500 kW or its contract demand.	
	Energy Charge:	Summer Period	$0.06624 per kWh per month.	
		Winter Period	$0.06624 per kWh per month.	
		Transition Period	$0.06624 per kWh per month.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Commercial/ Industrial	**B.**	This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW:			3
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.88 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.20 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$17.08 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.20 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$16.11 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.20 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$16.11 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.08158 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05664 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02203 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01862 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.07021 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05886 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02203 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01862 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05632 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05632 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02203 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01862 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.0129 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		**Base Charge**			**Number of Customers**
Commercial/ Industrial	**C.**	This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW:			1
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.88 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.08 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$16.96 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.08 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$15.99 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.08 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$15.99 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.08149 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05655 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02194 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01853 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.07012 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05877 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02194 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01853 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05623 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05623 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02194 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01853 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.0129 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Commercial/ Industrial	**D.**	This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 25,000 kW:			1
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.88 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.95 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$16.83 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.95 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$15.86 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.91 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.95 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$15.86 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.08140 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05646 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02071 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01844 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.07003 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05868 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02071 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01844 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05614 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05614 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02071 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01844 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.0129 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Commercial/ Industrial Time of Use	**A.**	This rate shall apply to the firm electric power requirements where a customer's currently effective contract demand is greater than 1,000 kW but not more than 5,000 kW:			8
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.96 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.88 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$17.84 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$10.00 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.88 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$16.88 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$10.00 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$6.88 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$16.88 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.10439 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.07086 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02834 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02531 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.08909 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.07383 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02834 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02531 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.07502 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.07502 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02834 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02531 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01427 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		**Base Charge**			**Number of Customers**
Manufacturing	**B.**	This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 5,000 kW but not more than 15,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.			2
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.25 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.24 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$13.49 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.24 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$12.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.24 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$12.52 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.07331 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04829 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01857 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01602 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.06190 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05053 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01857 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01602 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05139 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05139 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01857 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01602 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01201 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Manufacturing	**C.**	This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 15,000 kW but not more than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.			1
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.25 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.12 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$13.37 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.12 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$12.40 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$3.12 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$12.40 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:		
Summer Period	Onpeak	$0.07210 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04707 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01989 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01989 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.06068 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04929 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01989 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01989 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05017 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05017 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01989 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01989 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01201 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Manufacturing	**D.**	This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 25,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.			2
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.25 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$2.69 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$12.94 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$2.69 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$11.97 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$2.69 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$11.97 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Energy Charge:

Summer Period	Onpeak	$0.06867 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04365 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01705 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01646 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.05725 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04586 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01705 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01646 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.04674 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.04674 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.01705 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.01646 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01201 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class		Base Charge			Number of Customers
Manufacturing Time of Use	**A.**	This rate shall apply to the firm electric power requirements where (a) a customer's currently effective contract demand is greater than 1,000 kW but not more than 5,000 kW and (b) the major use of electricity is for activities conducted at the delivery point serving that customer which are classified with a 2-digit Standard Industrial Classification Code between 20 and 39, inclusive, or classified with 2002 North American Industry Classification System (NAICS) code 5181, or 2007 NAICS codes 5182, 522320, and 541214.			5
		Customer Charge:	$1,500 per delivery point per month.		
		Administrative Charge:	$700 per delivery point per month.		
		Demand Charge:			
		Summer Period	Onpeak Demand	$10.25 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.22 per kW per month of the customer's maximum billing demand, plus	
			Excess Demand	$15.47 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Winter Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.22 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$14.50 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	
		Transition Period	Onpeak Demand	$9.28 per kW per month of the customer's onpeak billing demand, plus	
			Maximum Demand	$5.22 per kW per month of the customer's maximum billing demand plus	
			Excess Demand	$14.50 per kW per month for each kW of the amount, if any, by which (1) the customer's onpeak billing demand exceeds its onpeak contract demand or (2) the customer's offpeak billing demand exceeds its offpeak contract demand, whichever is higher.	

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
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(Unaudited)

Energy Charge:

Summer Period	Onpeak	$0.07939 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05437 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02692 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02437 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Winter Period	Onpeak	$0.06797 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05660 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02692 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02437 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.
Transition Period	Onpeak	$0.05749 per kWh per month for all metered onpeak kWh, plus
	Offpeak: Block 1	$0.05749 per kWh per month for the first 200 hours use of onpeak metered demand multiplied by the ratio of offpeak energy to toal energy, plus
	Block 2	$0.02692 per kWh per month for the next 200 hours use of onpeak metered demand multiplied by the ratio of offpeak enegy to total energy, plus
	Block 3	$0.02437 per kWh per month for the hours use of onpeak metered demand in excess of 400 hours multiplied by the ratio of offpeak energy to total energy.

For the Summer Period, Winter Period, and Transition Period, Offpeak Block 1 energy rates less fuel rate of $0.01427 per kWh per month shall be applied to the portion, if any, of the minimum offpeak energy takings amount that is greater than the metered energy.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
Outdoor Lighting		
	Part A - Charges for Street and Park Lighting Systems, Traffic Signal Systems, and Athletic Field Lighting Installations	70
	Part B - Charges for Outdoor Lighting for Individual Customers	12,245

Part A - Charges for Street and Park Lighting Systems, Traffic Signal Systems, and Athletic Field Lighting Installations

Energy Charge:	Summer Period	$0.07821 per kWh per month.
	Winter Period	$0.07821 per kWh per month.
	Transition Period	$0.07821 per kWh per month.
Facility Charge:	The annual facility charge shall be 15.89 percent of the installed cost to KUB's electric system of the facilities devoted to street and park lighting service specified in this Part A. Such installed cost shall be recomputed on July 1 of each year, or more often if substantial changes in the facilities are made. Each month, one-twelfth of the then total annual facility charge shall be billed to the customer. If any part of the facilities has not been provided at the electric system's expense, or if the installed cost of any portion thereof is reflected on the books of another municipality or agency or department, the annual facility charge shall be adjusted to reflect properly the remaining cost to be borne by the electric system.	
Customer Charge:	$2.50.	

Part B - Charges for Outdoor Lighting for Individual Customers

Charges Per Fixture Per Month

a.

Type of Fixture	**(Watts)**	**(Lumens)**	**Rated kWh**	**Facility Charge**	**Total Lamp Charge**
Mercury Vapor or Incandescent*	175	7,650	70	$ 4.97	$ 10.44
	400	19,100	155	6.94	19.06
	1000[**]	47,500	378	11.10	40.66
High Pressure Sodium	100	8,550	42	4.97	8.25
	250	23,000	105	5.89	14.10
	400	45,000	165	6.94	19.84
	1000[**]	126,000	385	11.10	41.21
Decorative	100	8,550	42	5.66	8.94

[*] Mercury Vapor and Incandescent fixtures not offered for new service.

[**] 1,000 watt fixtures not offered for new service.

b.	Energy Charge:	For each lamp size under **a.** above, $0.07821 per rated kWh per month.
	Additional pole charge:	$5.00 per pole.

Knoxville Utilities Board Electric Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	**Base Charge**	**Number of Customers**
LED Outdoor Lighting		11,852

Charges Per Fixture Per Month

	Lamp Size	**Rated kWh**	**Facility Charge**	**Total Lamp Charge**
a.				
	100 WE	21	$ 5.72	$ 7.36
	250 WE	58	7.07	11.61
	400 WE	79	9.72	15.90

b. Energy Charge: For each lamp size under **a.** above, $0.07821 per rated kWh per month.
Additional pole charge: $5.00 per pole.

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Electric Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 29, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Electric Division of the Knoxville Utilities Board
Knoxville, Tennessee

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division’s financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division’s internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division’s internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board Electric Division
Schedule of Findings and Questioned Costs
June 30, 2020

Section I -- Summary of Auditor's Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting: Material weakness(es) identified?	No
Significant deficiency(s) identified not considered to be material weaknesses?	None reported
Noncompliance material to financial statements:	No

Section II -- Financial Statement Findings

None reported.

Section III – Findings Required by the State of Tennessee Audit Manual

None reported.

Section IV -- Summary Schedule of Prior Year Audit Findings

2019-02

In November 2018, it was discovered that an employee in the KUB Electrical Engineering Department in the Electric Division had falsified timesheets resulting in $7,907.79 of overpayments for false time reported. The employee resigned in lieu of termination. The employee paid full restitution of $7,907.79 to KUB.

APPENDIX C-1

THE NATURAL GAS DIVISION

THE GAS DIVISION

INTRODUCTION

The Gas Division has been owned and operated by KUB since 1945 when it purchased the system from City Service Company for $450,000.

SOURCES OF NATURAL GAS SUPPLY

KUB receives all of its natural gas supply at three different receiving stations, located in West, South, and Southeast Knox County, through an interstate natural gas pipeline owned by East Tennessee Natural Gas (ETNG), a subsidiary of Enbridge Inc.

KUB contracts for the purchase, transportation, and storage of natural gas to meet the needs of its customers. Annual purchases, including transport volumes, were approximately 12 million dekatherms (Dth) or 12 BCF. Gas is purchased primarily from the Gulf Coast and Appalachian regions and is transported via interstate natural gas pipelines directly to KUB for delivery to its customers or is injected into storage for subsequent withdrawal and delivery by KUB during the winter heating season.

KUB maintains baseload (full year) supply contracts with ConocoPhillips (up to 13,000 Dth per day), Shell (up to 11,000 Dth per day), BP Energy (up to 8,000 Dth per), New Jersey Resources (2,000 Dth per day), Symmetry (up to 4,567 Dth per day winter only), Nextera (up to 5,000 Dth per day) and CNX Gas (3,000 Dth per day). KUB also has arrangements to purchase from a number of other suppliers.

KUB has contracted with interstate natural gas pipelines Tennessee Gas Pipeline (TGP), Texas Eastern Transmission (Tetco) and East Tennessee Natural Gas (ETNG) for the transportation of its gas supplies. KUB's gas purchases from the Gulf Coast region are transported via TGP (up to 68,289 Dth per day), and Tetco (up to 7,500 Dth per day). TGP and Tetco interconnect with ETNG which delivers the gas directly to KUB. KUB maintains baseload transportation contracts with ETNG for a total of up to 102,863 Dth per day. KUB also maintains winter-term transportation contracts with ETNG for up to an additional 54,518 Dth per day.

KUB's gas purchases during the winter heating season are supplemented by deliveries from its storage inventories. KUB maintains one firm storage contract with the Tennessee Gas Pipeline and Tetco. The TGP contract provides KUB with storage capacity of 3,325,920 Dth and up to 39,417 Dth of daily deliverability rights. The Tetco contract provides KUB with storage capacity of 150,000 Dth and up to 7,500 Dth of daily deliverability rights. KUB maintains a peaking contract with ETNG which provides for 412,000 Dth of liquefied natural gas (LNG) in storage with a maximum deliverability of 54,518 Dth per day. KUB also maintains three storage contracts with Saltville Gas Storage Company, which provides 400,000 Dth of natural gas storage with a maximum deliverability of 30,000 Dth per day.

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NATURAL GAS PRICE RISK MANAGEMENT

Natural gas prices fluctuate over time. KUB protects itself from the risk of volatile and adverse gas prices through its Purchased Gas Adjustment (PGA). The PGA adjusts KUB's retail gas rates on a monthly basis to reflect its current purchased gas costs. The PGA provides assurance that KUB will recover its purchased gas costs while not overcharging or undercharging its customers.

The primary concern of KUB in its gas procurement program is to ensure reliability of supply; however, in response to commodity price volatility, KUB has instituted a price risk management program for the purpose of moderating price volatility on behalf of its customers. The primary tool KUB has utilized in managing commodity price risk has been via pricing mechanisms embedded in its supplier contracts whereby KUB can lock in the price of its gas purchases. In 1997, KUB's Board of Commissioners authorized the use of natural gas futures contracts for the purpose of managing natural gas commodity price risk. The authorizing resolution incorporated a Price Risk Management Policy Statement which, among other things, provided for a Price Risk Management Committee to oversee hedging activities. The use of natural gas futures contracts was solely for the purpose of managing the risk of gas price fluctuations and not for the purpose of speculation or making a profit from the buying and selling of futures contracts. For fiscal year 2020, the Gas Division hedged the price on 36% of its total gas purchases via supply contracts. KUB no longer utilizes natural gas futures contracts as part of its price risk program.

KUB's Alternative Gas Pricing Program enables large industrial/commercial gas customers to have control over the commodity cost of their gas purchases from KUB. Under the program, customers may choose to have fixed or market-priced purchases.

SEASONAL CASH FLOW MANAGEMENT

In order to manage the seasonality of cash flow for the Gas Division, KUB often utilizes a short-term revenue anticipation note (Line of Credit) with a local commercial bank. KUB did not initiate the line of credit in fiscal year 2020.

THE NATURAL GAS SYSTEM

KUB's natural gas distribution system service territory covers Knox County with small extensions in Anderson and Loudon counties. As of June 30, 2020, the gas system served 104,433 customers. The gas system includes 293 square miles of gas service territory. Peak capacity for the system is 157,381 dekatherms. The system's peak service day was in January 2018 at 140,204 dekatherms.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

KUB's gas system is relatively new. Approximately 71 percent of gas service mains have been installed in the last 30 years. The gas main system is primarily comprised of plastic mains, which represent over 91 percent of total main in the system. Cast iron and ductile iron main represent 0.05 percent of the current system. KUB has a cast iron/ductile iron main replacement program.

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In 2013, the Board extended the funding approach for Century II to include the natural gas system. The Board formally endorsed by resolution a ten-year funding plan for the Gas Division, which included a combination of rate increases and debt issues to fully fund the natural gas system's Century II program.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved three annual rate increases for the Gas Division. The October 2014, October 2015, and October 2016 rate increases each provided an additional $1.8 million in annual revenue to help fund infrastructure replacement and maintenance.

The South Loop project that included a new 8-mile transmission main in the southwest portion of KUB's service territory was completed in October 2015. The South Loop provides additional system capacity to meet the increased natural gas demands of the University of Tennessee, in addition to other potential growth opportunities in that portion of KUB's gas service territory.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort, of which the Gas Division's share is $19.2 million. The deployment is funded in large part by debt issues and system revenues. As of June 30, 2020, KUB completed the final year of the four-year advanced meters deployment, including the installation of network communication devices, spending $12.8 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board of Commissioners to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of gas rate increases to support the Century II program. The three approved gas rate increases went into effect in October 2017, October 2018, and October 2019, generating $2.2 million, $2.3 million, and $2.3 million in additional annual Gas Division revenue, respectively.

During fiscal year 2020, KUB replaced 8.3 miles of steel gas main while staying on track with Century II goals and within the Gas Division's total capital budget.

PENSION PLAN

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	**2018**
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

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Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement

System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $439,590 and $536,632 are attributable to the Gas Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $538,506. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $623,078. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

See Appendix C-2 for additional pension plan information.

QUALIFIED EXCESS BENEFIT ARRANGEMENT (QEBA)

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68 ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $3,440 at June 30, 2020, and $39,420 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

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Changes in total pension liability of the QEBA are as follows:

		Increase (Decrease) Total Pension Liability
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions

The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate

The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate

The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $33,847). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $5). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $3,685) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $930) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $37,106). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $1,815). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $2,341) and a deferred outflow of $29,385 (Division's share $4,995) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $1,034).

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The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445
Division's share	$ 8,779	$ 6,026

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $1,034). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $5,022). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $4,913). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,396).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $3,121). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $7,493). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $1,231).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 10,120	$ 8,034

OTHER POST-EMPLOYMENT BENEFITS (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

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Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division's share $52,925). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $128,728. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $83,141. The Plan's actuarial funded ratio is 97.68 percent.

See Appendix C-2 for additional OPEB information.

FISCAL YEAR 2021 FINANCIAL UPDATE

For the six months ending December 31, 2020, KUB's Gas Division recorded earnings of $4.5 million, representing a decrease of $1.4 million over the same period last fiscal year. This decrease is the net effect of higher operating expenses offset by a 3.1 percent increase in gas sales volumes compared to the same period last fiscal year combined with the October 2019 rate increase.

As of December 31, 2020, the Gas Division had $105.5 million in outstanding debt, representing a debt to capitalization ratio of 29.3 percent. The Gas Division's current maximum debt service coverage ratio is projected to be 3.61.

Capital investment in gas system infrastructure is projected to be approximately $24.9 million for fiscal year 2021, reflecting KUB's continued commitment to the timely replacement of critical gas system assets, including cast iron, ductile iron, and low-pressure steel main.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

GAS RATES

The rate schedules of the Natural Gas Division adopted by the KUB Board of Commissioners contain a purchased gas adjustment (unless specified otherwise) under which the rates are adjusted up or down to reflect the division's current cost of purchased gas. Gas rates are expressed in cents per therm for rate schedules G-2, G-4, and G-6. Rate schedules G-7, G-11, and G-12 are expressed in dollars per dekatherm (one dekatherm is equivalent to ten therms). Rate schedule G-13, the Discount Gas Service Rider, and rate schedule G-14, the Alternative Gas Pricing Rider, are supplements to the division's commercial/industrial rate schedules.

The current rate schedules of the Natural Gas Division are as follows:

RATE SCHEDULE G-2
RESIDENTIAL GAS SERVICE

Availability

Service under Rate Schedule G-2 is available only to residential customers served individually through a separate meter. Rate Schedule G-2 shall also be available to a customer with eight or less dwelling units served through a single meter, but in such case the minimum charge and the quantity of gas specified for each block of Rate Schedule G-2 shall be multiplied by the number of individual dwelling units served.

Rates

For the regular monthly billing periods of November through April, inclusive:

Basic Service Charge:	$10.90
Commodity Charge:	$1.1276 per therm for the first 30 therms; plus $0.9154 per therm for the excess over 30 therms.

For the regular monthly billing periods of May through October, inclusive:

Basic Service Charge: $10.90
Commodity Charge: $0.9489 per therm for the first 50 therms; plus
$0.8303 per therm for the excess over 50 therms.

Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

Minimum Bill

The minimum bill under Rate Schedule G-2 for each regular monthly billing period shall be the Basic Service Charge.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-4
COMMERCIAL AND INDUSTRIAL GAS SERVICE

Availability

Service under Rate Schedule G-4 is available to any commercial or industrial customer. Unless otherwise approved by KUB, a customer receiving service under Rate Schedule G-4, after previously receiving service under Rate Schedule G-6, shall not be allowed to return to service under Rate Schedule G-6 until at least twelve months have elapsed since service was last received under Rate Schedule G-6.

Rates

Customer Charge: $31.00
Commodity Charge: $1.1027 per therm for the first 250 therms; plus
$0.9836 per therm for the excess over 250 therms.

Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

Minimum Bill

The minimum bill for each monthly billing period shall be the Customer Charge.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-6
COMMERCIAL AND INDUSTRIAL GAS SERVICE

Availability

Service under Rate Schedule G-6 is available to any commercial or industrial customer that incurs a demand of twenty-seven therms or more during the current monthly billing period or during any of the eleven most recent monthly billing periods. Unless otherwise approved by KUB, a customer receiving service under Rate Schedule G-6, after previously receiving service under Rate Schedule G-4, shall not be allowed to return to service under Rate Schedule G-4 until at least twelve months have elapsed since service was last received under Rate Schedule G-4.

Rates

Customer Charge:	$185.00
Demand Charge:	$2.05 per therm of demand.
Commodity Charge:	$0.7403 per therm for the first 30,000 therms; plus $0.6423 per therm for the excess over 30,000 therms.

Purchased Gas Adjustment

The Commodity Charge shall be subject to KUB's Purchased Gas Adjustment.

Determination of Demand

For the six regular monthly billing periods of November through April, inclusive, herein called the "On Peak Season", the demand shall be the greatest quantity of gas used on any day during the applicable monthly billing period, but not less than eighty percent (80%) of the greatest quantity of gas used on any day in any On Peak Season month in the twelve months ending with the applicable monthly billing period.

For the six regular monthly billing periods of May through October, inclusive, herein called the "Off Peak Season", the demand shall be the greatest quantity of gas used on any day during the applicable monthly billing period, but not less than eighty percent (80%) of the greatest quantity of gas used on any day in any month in the immediately preceding On Peak Season, except (a) the demand for any customer who has used gas under Rate Schedule G-6 during all six months in the immediately preceding On Peak Season shall be eighty percent (80%) of the greatest quantity of gas used on any day in any month in the immediately preceding On Peak Season, and (b) the demand shall be zero for a customer who has used gas under Rate Schedule G-6 during at least three months during the immediately preceding Off Peak Season and has used no gas during the immediately preceding On Peak Season.

At the option of KUB, the demand shall be determined either (a) by demand type meter, or (b) by electronic measuring device, or (c) by test, or (d) by estimate. If determined by estimate, the demand shall be considered to be equal to five percent (5%) of the total quantity of gas used during the applicable monthly billing period.

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Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-7
INTERRUPTIBLE LARGE COMMERCIAL AND INDUSTRIAL SERVICE

Definitions

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for interruptible gas service under Rate Schedule G-7.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas or Supplemental Gas to KUB.

"Firm Gas" means the amount of gas designated as such in a written contract between KUB and the Customer; Firm Gas is not subject to interruption or curtailment except for emergency or other causes as provided in KUB's Rules and Regulations.

"Interruptible Gas" means that gas which is subject to interruption or curtailment by KUB at any time and to the extent that KUB, in its sole discretion, deems desirable.

"Notice of Interruption" means the notice given by KUB to a Customer that a Period of Interruption has commenced or will commence.

"Period of Interruption" means any period of time during which KUB shall interrupt or curtail the delivery of gas to the Customer.

"Redelivery" means the delivery of Transport Gas or Supplemental Gas to the Customer by KUB.

"Supplemental Gas" means gas procured by KUB for the account of a Customer for Delivery to KUB and Redelivery to the Customer.

"Transport Gas" means gas purchased by a Customer from a supplier other than KUB that the Customer has arranged to have Delivered to KUB for Redelivery to the Customer.

“Unauthorized Gas” means the quantity of gas taken by Customer exceeding the amount which is permitted during a Period of Interruption.

Availability

Service under Rate Schedule G-7 is available to any customer who meets the following conditions:

(a) Customer’s annual Interruptible Gas use, on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-7 for each two (2) dekatherms of Interruptible Gas which are purchased;

(c) Customer must have standby equipment of sufficient capacity capable of providing Customer's normal gas service requirements for a period of five (5) working days without replenishment when Interruptible Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision; and

(d) KUB must determine that its existing distribution system facilities are adequate and available for the requested service.

In the event Customer shall fail at any time to continue to meet the conditions (a) through (c), service under Rate Schedule G-7 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under Rate Schedule G-6.

Notwithstanding the foregoing, any Customer receiving service under Rate Schedule G-7 immediately prior to September 1, 1992 may continue to receive service under Rate Schedule G-7 without fulfilling each of the above stated conditions until such time as service to Customer is terminated or Customer begins receiving gas service under a different rate schedule. Such Customer shall continue to comply with any conditions in effect prior to September 1, 1992.

Character of Service

Interruptible Gas shall be available only to the extent that KUB has gas available that is not required by firm customers. If a Customer is served by gas purchased on an interruptible rate from KUB's suppliers, all conditions imposed by KUB's suppliers on the use of such Interruptible Gas shall likewise apply to such Customer as if KUB imposed the condition on the Customer.

Transportation Service

During any Period of Interruption, Customer may request Transportation Service from KUB whereby Customer may either (i) purchase Transport Gas and arrange to Deliver such Transport Gas to KUB via any connected interstate natural gas pipeline to one or more of KUB’s designated delivery points for Redelivery to the Customer or (ii) solicit the service of KUB in procuring

Supplemental Gas for Customer whereby upon agreeing to provide such service, KUB will attempt to: (a) procure Supplemental Gas on the open market for the account of Customer; (b) arrange for such Supplemental Gas to be transported at Customer's cost via connecting interstate natural gas pipelines to one or more of KUB's designated delivery points, and (c) Redeliver such Supplemental Gas to Customer.

Redeliveries by KUB to Customer are subject to interruption when, in the sole discretion of KUB, conditions warrant a suspension of Transportation Service.

Prior to the commencement of a Period of Interruption or within a reasonable period of time subsequent to the commencement of a Period of Interruption, as determined by KUB in its sole discretion, Customer must: (a) notify KUB of its intent to receive Transportation Service from KUB and (b) provide KUB with a schedule showing the proposed daily volumes to be delivered to KUB and Redelivered to the Customer. KUB shall notify Customer of those volumes KUB has approved on a daily basis for Delivery to KUB and Redelivery to Customer (Approved Daily Volumes) prior to the Delivery of any gas to KUB. KUB reserves the right to adjust the Approved Daily Volumes as conditions warrant. KUB shall notify Customer promptly of any adjustment in the Approved Daily Volumes.

KUB shall not be obligated to Redeliver any volumes of gas to Customer: (a) in excess of the Customer's Approved Daily Volumes and (b) in the case of Transport Gas, for which KUB has not received a confirmation of receipt from the applicable connecting pipeline on any given Day.

Transportation Service under this Rate Schedule shall be subject to the following charges, as applicable: (a) the Commodity Charge, as set forth in the Rate Schedule, for Redeliveries of Supplemental Gas to Customer, and (b) the Transportation Charge, as set forth in this Rate Schedule, for Redeliveries to Customer.

Upon conclusion of Customer's Period of Interruption, if total previous Deliveries of Transport Gas or Supplemental Gas to KUB exceeds total Redeliveries of Transport Gas or Supplemental Gas to Customer by KUB, as applicable, the excess will be treated as the first gas (excluding Firm Gas) through Customer's meter following Customer's Period of Interruption.

Gas purchased or transported under Rate Schedule G-7 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

Quantities of Gas Delivered

For the purpose of allocating the daily volume of gas delivered to a Customer under this rate schedule, the first gas delivered shall be considered Firm Gas up to the daily quantity contracted for as Firm Gas, the next gas delivered shall be the Approved Daily Volumes of Transport Gas or Supplemental Gas for that Day, as applicable, and all additional gas delivered shall be considered Interruptible Gas except during a Period of Interruption, then all additional gas delivered shall be considered Unauthorized Gas.

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Rates

Customer Charge: $575.00
Demand Charge: $20.50 per dekatherm of demand.

Commodity Charge:

For Firm Gas: $6.423 per dekatherm.

For Interruptible Gas: $5.173 for the first 3,000 dekatherms; plus
$4.550 for each dekatherm from 3,000 to and including 20,000 dekatherms; plus
$3.719 for each dekatherm from 20,000 to and including 50,000 dekatherms; plus
$3.439 for the excess over 50,000 dekatherms.

For Supplemental Gas: The Commodity Charge for Supplemental Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Supplemental Gas on the open market, subject to the approval of the Customer to purchase Supplemental Gas at or above such price and (b) the costs incurred by KUB in transporting such Supplemental Gas via connecting pipelines to one or more of KUB's delivery points.

Transportation Charge: $2.449 per dekatherm for the first 3,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus
$1.826 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus
$.995 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus
$.715 per dekatherm for the excess over 50,000 dekatherms of gas Redelivered plus Unauthorized Gas.

Unauthorized Gas Charge: $25.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in INSIDE FERC, or if INSIDE FERC is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points.

In determining the appropriate rate block to bill Transportation Charges for gas Redelivered and Unauthorized Gas, the following volumes shall be combined: Interruptible Gas, Supplemental Gas, Transport Gas, and Unauthorized Gas.

Purchased Gas Adjustment

The Commodity Charge for Firm Gas and Interruptible Gas shall be subject to KUB's Purchased Gas Adjustment.

Determination of Demand

Demand shall be the daily quantity of gas contracted for as Firm Gas by the Customer. Customer, with the consent of KUB, may from time to time change the amount of Firm Gas by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Firm Gas, unless the previously specified Firm Gas has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective.

Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event Customer takes Unauthorized Gas, Customer shall be charged the Unauthorized Gas Charge for all Unauthorized Gas delivered by KUB to Customer. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

Priority of Service

Interruptible gas service is supplied to customers of KUB under Rate Schedules G-7 and G-11. Except as may be otherwise determined by KUB in its sole discretion, Periods of Interruption shall generally be imposed on interruptible customers of KUB in the following order:

(1) If the Period of Interruption is necessary due to an emergency or capacity limitation on KUB's gas distribution system, then the interruption of service to all interruptible customers of KUB shall be handled on a pro rata or other equitable basis as determined by KUB.

(2) If the capacity limitation affects only a restricted geographic area of KUB's gas distribution system, then only interruptible customers of KUB within the restricted area will have their service interrupted. The interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

(3) If the Period of Interruption is necessary due to a shortage of KUB's normal gas supply, whether caused by a capacity limitation of KUB's connecting pipeline(s) or by an actual shortage of gas, then:

(a) The first service interrupted shall be Rate Schedule G-7 Customers (other than Redeliveries of Supplemental Gas and Transport Gas) who have not heretofore been interrupted as provided above.

(b) The second service interrupted shall be Redeliveries of Supplemental Gas to Rate Schedule G-7 Customers. Even though KUB may have acquired Supplemental Gas for the account of a Customer under Rate Schedule G-7, this service may be interrupted to the extent necessary to provide service to KUB's Firm Gas customers.

Within each category, the interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

Insofar as Transport Gas has been Delivered to KUB for any customer receiving service under Rate Schedule G-7 or Rate Schedule G-11, and insofar as the Period of Interruption is not due to an emergency or capacity limitation on KUB's gas distribution system, the delivery of Transport Gas by KUB to those customers will not be interrupted.

(4) If the Period of Interruption is necessary due to a lack of confirmation by any connecting pipeline of deliveries for any Rate Schedule G-11 customers or to any Customers receiving Transportation Service under Rate Schedule G-7, then only service to the affected Rate Schedule G-11 customers or to the affected Customers receiving Transportation Service under Rate Schedule G-7, as applicable, will be interrupted.

Notices

To the extent possible, KUB shall give Customer at least a one hour Notice of Interruption before a Period of Interruption begins. A Notice of Interruption may be provided by KUB by any means including written, verbal or electronic, and shall be sufficient if given by KUB to the person or persons designated from time to time by the Customer as authorized to receive such notices. If a Period of Interruption involves only a reduction in the amount of gas that may be purchased, the Notice of Interruption shall state the daily and/or hourly quantity of gas which Customer may purchase. A Period of Interruption shall continue in effect until KUB notifies Customer that the Period of Interruption has terminated or until the time specified in the Notice of Interruption expires.

Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

Contract for Service

Each Customer receiving service under Rate Schedule G-7 shall execute a contract with KUB for at least twelve (12) months to end on the November 1st specified in said contract or such other period as Customer and KUB agree upon. Transportation Service under Rate Schedule G-7 shall be provided only after such customer executes a contract with KUB providing for Transportation Service.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-11
TRANSPORTATION GAS SERVICE

Definitions

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for transportation gas service under Rate Schedule G-11.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas to KUB.

"Firm Gas" means the amount of gas designated as such in a written contract between KUB and the Customer; Firm Gas is not subject to interruption or curtailment except for emergency or other causes as provided for in KUB's Rules and Regulations.

"Imbalance" means the difference between Deliveries to KUB for a Customer and Redeliveries by KUB to the Customer.

"Notice of Interruption" means the notice given by KUB to a Customer that a Period of Interruption has commenced or will commence.

"Operational Flow Order" means any directive issued to a Customer by KUB which requires the Customer to adjust Deliveries to KUB or deliveries of non-Firm gas to the Customer by KUB.

"Period of Interruption" means any period of time during which KUB shall interrupt or curtail the delivery of gas to the Customer.

"Redelivery" means the delivery of gas, excluding Firm Gas and Unauthorized Gas, to a Customer by KUB.

"Scheduled Daily Amount" means the amount of Transport Gas approved by KUB from time to time to be Delivered by a Customer to KUB and delivered to the Customer by KUB on a daily basis.

"Transport Gas" means the gas purchased by a Customer from a supplier other than KUB that Customer has arranged to have Delivered to KUB for delivery to the Customer by KUB.

"Transportation Service Agreement" means the contract between KUB and the Customer whereby KUB agrees to provide transportation gas service to the Customer.

"Unauthorized Gas" means (a) the quantity of gas taken by Customer exceeding the amount which is permitted during a Period of Interruption or (b) the difference (whether positive or negative) between the quantity of gas taken by Customer and the volumes provided for under an Operational Flow Order.

Availability

Service under Rate Schedule G-11 shall be available to any customer who meets the following conditions:

(a) Customer's annual gas usage (excluding Firm Gas), on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-11 for each two (2) dekatherms of Transport Gas delivered by KUB to the Customer;

(c) Customer must have standby equipment of sufficient capacity capable of providing Customer's normal gas service requirements for a period of five (5) working days without replenishment when Transport Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision;

Condition (c) shall be optional for any Customer who meets the following requirements: (1) annual gas usage (excluding Firm Gas) is equal to or greater than 25,000 dekatherms; (2) primary use of gas is for industrial or process use; and (3) provides satisfactory evidence to KUB of its ability and willingness to have its gas service interrupted or curtailed by KUB in accordance with the terms and conditions of this Rate Schedule.

(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.

(e) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and

(f) Customer must execute a Transportation Service Agreement for transportation gas service.

In the event Customer shall fail at any time to meet conditions (a) through (d) service under Rate Schedule G-11 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under other KUB rate schedules.

Notwithstanding the foregoing, any Customer which received service under Rate Schedule G-11 prior to November 1, 1997 may receive service under Rate Schedule G-11 without fulfilling conditions (a) and (b). Any such Customer shall comply with all other terms and conditions of Rate Schedule G-11.

Character of Service

Pursuant to a Transportation Service Agreement and Rate Schedule G-11, and subject to Periods of Interruption determined by KUB in its sole discretion, KUB shall deliver to the Customer up to the Contract Amount of Transport Gas received from one or more connected interstate natural gas pipelines for Customer's account.

The first gas delivered to the Customer on a daily basis under Rate Schedule G-11 shall be considered Firm Gas up to the daily quantity contracted for as Firm Gas by the Customer.

Gas purchased or transported under Rate Schedule G-11 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

Rates

Customer Charge: $750.00
Demand Charge: $20.50 per dekatherm of demand.
Firm Gas Charge: $6.423 per dekatherm.

Transportation Charge: $2.449 per dekatherm for the first 3,000 dekatherms of non-Firm gas delivered to Customer; plus
$1.826 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of non-Firm gas delivered to Customer; plus
$.995 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of non-Firm gas delivered to Customer; plus
$.715 per dekatherm for the excess over 50,000 dekatherms of non-Firm gas delivered to Customer.

Unauthorized Gas Charge: $25.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of

	obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for “Transco zone 5 delivered” or “Tennessee 500 Leg”, whichever is higher for the applicable Day as published in Gas Daily. If Gas Daily is no longer published, or one of the aforementioned indices is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion.
Other Charges:	Imbalance Charges (as herein defined), and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.

Purchased Gas Adjustment

The Firm Gas Charge shall be subject to KUB’s Purchased Gas Adjustment.

Determination of Demand

Demand shall be the daily quantity of gas contracted for as Firm Gas by the Customer. Customer, with the consent of KUB, may from time to time change the amount of Firm Gas by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which the Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Firm Gas, unless the previously specified Firm Gas has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective.

Scheduling of Service

At least three (3) business days prior to the first calendar day of the month, Customer shall submit to KUB its schedule showing the proposed daily volumes of Transport Gas the Customer desires to deliver to KUB via connecting pipelines and have delivered to the Customer by KUB during the succeeding month (“Delivery Schedule”). Any proposed Delivery of gas in excess of the Transport Gas portion of the Contract Amount shall be specifically noted in the Delivery Schedule. At least one business day prior to the beginning of the applicable calendar month, KUB shall notify the Customer in writing of the volumes of Transport Gas for such Customer which have been approved for Delivery to KUB and delivery to the Customer by KUB on a daily basis during such month (“Scheduled Daily Amount”). The Customer must notify and obtain written approval of KUB for any changes in the Scheduled Daily Amount during a month at least twenty-four (24) hours prior to the proposed commencement of such change.

KUB shall have the right, in its sole discretion, to issue an Operational Flow Order (“OFO”) which shall require the Customer to adjust Deliveries to KUB or deliveries of non-Firm gas to the Customer by KUB in order to address one or more of the following situations: (1) to maintain system operations at pressures required to provide efficient and reliable service, (2) to have adequate gas supplies in the system to deliver on demand, (3) to maintain service to all firm gas customers and for all firm gas services, (4) to avoid penalties from connecting pipelines, or (5) any other situation which may threaten the operational integrity of KUB's gas distribution system.

To the extent possible, KUB shall give at least one hour notice prior to issuing an OFO. Notice may be provided by KUB by any means including written, verbal or electronic, and shall be sufficient if given by KUB to the person or person(s) designated from time to time by the Customer as authorized to receive such notices. The OFO shall include but not be limited to the following information: (1) time and date of issuance, (2) action Customer is required to take, (3) time at which Customer must be in compliance with the OFO, (4) anticipated duration of the OFO, and (5) any other terms and conditions that KUB may reasonably require to ensure the effectiveness of the OFO.

Any volumes of gas delivered to the Customer by KUB in excess of the volumes provided for under the OFO shall be subject to the entire Unauthorized Gas Charge. If the volumes of gas delivered to the Customer by KUB are less than the volumes required to be delivered to the Customer under the OFO, the volumes not delivered to the Customer shall be subject only to the penalty portion of the Unauthorized Gas Charge.

Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. A Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event a Customer takes Unauthorized Gas, the Customer shall be charged for all Unauthorized Gas delivered by KUB to the Customer the Unauthorized Gas Charge. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give any Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

Balancing of Deliveries

As nearly as practical, Deliveries and Redeliveries shall be at uniform rates of flow. Due to Customer operating conditions, the quantities of gas Delivered to KUB and Redelivered to Customer during any particular period may not balance. It shall be the responsibility of the Customer to adjust Deliveries and Redeliveries of gas to maintain a daily balance of Deliveries and Redeliveries.

KUB will endeavor to monitor Deliveries and Redeliveries and, to the extent practical, inform the Customer of Imbalances which have occurred. KUB's failure to notify the Customer of an Imbalance shall not affect Customer's obligations under Rate Schedule G-11. All efforts to correct Imbalances by a Customer shall be coordinated with KUB.

KUB shall have the right to take any and all action necessary to limit Imbalances from connecting pipelines or which affect the integrity of KUB's system.

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Resolution of Imbalances

The Customer's Imbalance for the month shall be the net total of daily Imbalances for the month. KUB shall divide the monthly Imbalance by the sum of the Deliveries to KUB for the Customer for each Day of the month to determine the percentage (%) monthly Imbalance. KUB shall resolve the monthly Imbalance according to the following schedules ("Imbalance Charges"):

Schedule A. Redeliveries exceed Deliveries - Customer shall pay KUB for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule A) for those volumes within the corresponding % monthly imbalance range.

% Monthly Imbalance	Price
0 - 5%	100% of Index Price
> 5 - 10%	115% of Index Price
>10 - 15%	130% of Index Price
>15 - 20%	140% of Index Price
>20%	150% of Index Price

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily, or if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Schedule B. Deliveries exceed Redeliveries - KUB shall pay the Customer for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule B) for those volumes within the corresponding % monthly imbalance range.

% Monthly Imbalance	Price
0 - 5%	100% of Index Price
> 5 - 10%	85% of Index Price
>10 - 15%	70% of Index Price
>15 - 20%	60% of Index Price
>20%	50% of Index Price

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs which would have been incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Priority of Service

Interruptible gas service is supplied to customers of KUB under Rate Schedules G-7 and G-11. Except as may be otherwise determined by KUB in its sole discretion, Periods of Interruption shall generally be imposed on interruptible customers of KUB in the following order:

(1) If the Period of Interruption is necessary due to an emergency or a capacity limitation on KUB's gas distribution system, then the interruption of service to all interruptible customers of KUB shall be handled on a pro rata or other equitable basis as determined by KUB.

(2) If the capacity limitation affects only a restricted geographic area of KUB's gas distribution system, then only interruptible customers of KUB within the restricted area will have their service interrupted. The interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

(3) If the Period of Interruption is necessary due to a shortage of KUB's normal gas supply, whether caused by a capacity limitation of KUB's connecting pipeline(s) or by an actual shortage of gas, then the first service interrupted shall be Rate Schedule G-7 customers (other than redeliveries of supplemental gas and transport gas) who have not heretofore been interrupted as provided above. Even though KUB may have acquired supplemental gas for the account of a customer under Rate Schedule G-7 this service may be interrupted to the extent necessary to provide service to KUB's Firm Gas customers. The interruption of such customers shall be handled on a pro rata or other equitable basis as determined by KUB.

Insofar as Transport Gas has been Delivered to KUB for any customer receiving service under Rate Schedule G-7 or Rate Schedule G-11, and insofar as the Period of Interruption is not due to an emergency or capacity limitation on KUB's gas distribution system, the delivery of Transport Gas by KUB to those customers will not be interrupted.

(4) If the Period of Interruption is necessary due to a lack of confirmation by any connecting pipeline of Deliveries for any Rate Schedule G-11 Customers or to any customers receiving transportation service under Rate Schedule G-7, then only service to the affected Rate Schedule G-11 Customers or to the affected customers receiving transportation service under Rate Schedule G-7, as applicable, will be interrupted.

Notices

To the extent possible, KUB shall give Customer at least a one hour Notice of Interruption before a Period of Interruption begins. A Notice of Interruption may be provided by KUB by any means including written, verbal or electronic, and shall be sufficient if given by KUB to the person or persons designated from time to time by the Customer as authorized to receive such notices. If a Period of Interruption involves only a reduction in the amount of gas that may be transported, the Notice of Interruption shall state the daily and/or hourly quantity of gas which Customer may transport. A Period of Interruption shall continue in effect until KUB notifies Customer that the Period of Interruption has terminated or until the time specified in the Notice of Interruption expires.

Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

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Contract for Service

Each Customer receiving service under Rate Schedule G-11 shall execute a contract with KUB for at least twelve (12) months to end on the November 1st specified in said contract or such other period as Customer and KUB agree upon.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-12

COMMERCIAL AND INDUSTRIAL FIRM TRANSPORTATION GAS SERVICE

Definitions

"Contract Amount" means the maximum amount of Transport Gas a Customer may transport through KUB's gas distribution system facilities on any Day as established by a Transportation Service Agreement between KUB and the Customer.

"Customer" means a person or entity contracting with or otherwise receiving service from KUB for firm transportation gas service under Rate Schedule G-12.

"Day" means a period of twenty-four (24) consecutive hours, beginning and ending at 10:00 A.M. prevailing Knoxville time or such other period as may be established by the applicable connecting pipeline(s) to KUB's system.

"Delivery" means the delivery of Transport Gas to KUB.

"Imbalance" means the difference between Deliveries to KUB for a Customer and Redeliveries by KUB to the Customer.

"Operational Flow Order" means any directive issued to a Customer by KUB which requires the Customer to adjust Deliveries to KUB or deliveries of gas to the Customer by KUB.

"Redelivery" means the delivery of gas, excluding Unauthorized Gas, to a Customer by KUB.

"Scheduled Daily Amount" means the amount of Transport Gas approved by KUB from time to time to be Delivered by a Customer to KUB and delivered to the Customer by KUB on a daily basis.

"Transport Gas" means the gas purchased by a Customer from a supplier other than KUB that Customer has arranged to have Delivered to KUB for delivery to the Customer by KUB.

"Transportation Service Agreement" means the contract between KUB and Customer whereby KUB agrees to provide firm transportation gas service to the Customer.

"Unauthorized Gas" means (a) the quantity of gas taken by Customer exceeding the Contract Amount or (b) the difference (whether positive or negative) between the quantity of gas taken by Customer and the volumes provided for under an Operational Flow Order.

Availability

Service under Rate Schedule G-12 shall be available to any customer when the following conditions are met:

(a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 12,500 dekatherms (one dekatherm is equivalent to ten therms);

(b) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and

(c) Customer must execute a Transportation Service Agreement for firm transportation gas service.

(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.

In the event a Customer shall fail at any time to continue to meet condition (a) or (d), service under Rate Schedule G-12 shall no longer be available; but at KUB's option, gas service may be provided to the Customer under other KUB rate schedules.

Rate Schedule G-12 shall only be available to customers receiving service under this rate schedule as of November 1, 2019 and this Rate Schedule G-12 shall be terminated as of November 1, 2021.

Character of Service

Pursuant to a Transportation Service Agreement and Rate Schedule G-12, KUB shall deliver to the Customer up to the Contract Amount of Transport Gas received from one or more connected interstate natural gas pipelines for Customer's account.

Transport Gas, as provided for under Rate Schedule G-12, shall be subject to interruption as a result of emergency or other causes as provided for in KUB's Rules and Regulations.

Gas purchased or transported under Rate Schedule G-12 shall be used only by the Customer at its facilities and shall be delivered at a single point of delivery located within the service area of KUB and shall not be resold by the Customer.

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Rates

Customer Charge: $750.00

Demand Charge: $6.60 per dekatherm of demand.

Transportation Charge: $2.768 per dekatherm for the first 3,000 dekatherms of gas delivered to Customer; plus
$1.977 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas delivered to Customer; plus
$1.057 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas delivered to Customer; plus
$.956 per dekatherm for the excess over 50,000 dekatherms of gas delivered to Customer.

Unauthorized Gas Charge: $25.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for "Transco zone 5 delivered" or "Tennessee 500 Leg", whichever is higher for the applicable Day as published in Gas Daily. If Gas Daily is no longer published, or one of the aforementioned indices is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion.

Other Charges: Imbalance Charges (as herein defined), and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.

Determination of Demand

Demand for any month shall be the Customer's Contract Amount. Customer, with the consent of KUB, may from time to time change the Contract Amount by providing written notice to KUB at least three (3) business days prior to the beginning of the monthly billing period for which the Customer desires the change to be effective; provided, however, that such changes shall not effect a reduction in the previously specified Contract Amount unless the previously specified Contract Amount has been in effect for the entire twelve month period immediately preceding the date the requested change is to become effective. Any change in the Contract Amount shall be effectuated by an amendment to the Transportation Service Agreement.

Scheduling of Service

At least three (3) business days prior to the first calendar day of the month, Customer shall submit to KUB its schedule showing the proposed daily volumes of Transport Gas the Customer desires to Deliver to KUB via connecting pipelines and have delivered to the Customer by KUB during the succeeding month ("Delivery Schedule"). Any proposed Delivery of gas in excess of the Contract Amount shall be specifically noted in the Delivery Schedule. At least one business day prior to the beginning of the applicable calendar month, KUB shall notify the Customer in writing of the volumes of Transport Gas for such Customer which have been approved for Delivery to KUB and delivery to the Customer by KUB on a daily basis during such month ("Scheduled Daily Amount"). The Customer must notify and obtain written approval of KUB for any changes in the Scheduled Daily Amount during a month at least twenty-four (24) hours prior to the proposed commencement of such change.

KUB shall have the right, in its sole discretion, to issue an Operational Flow Order ("OFO") which shall require the Customer to adjust Deliveries to KUB or deliveries of gas to the Customer by KUB in order to address one or more of the following situations: (1) to maintain system operations at pressures required to provide efficient and reliable service, (2) to have adequate gas supplies in the system to deliver on demand, (3) to maintain service to all firm gas customers and for all firm gas services, (4) to avoid penalties from connecting pipelines, or (5) any other situation which may threaten the operational integrity of KUB's gas distribution system.

To the extent possible, KUB shall give at least one hour notice prior to issuing an OFO. Notice may be provided by KUB by any means including written, verbal or electronic, and shall be sufficient if given by KUB to the person or person(s) designated from time to time by the Customer as authorized to receive such notices. The OFO shall include but not be limited to the following information: (1) time and date of issuance, (2) action Customer is required to take, (3) time at which Customer must be in compliance with the OFO, (4) anticipated duration of the OFO, and (5) any other terms and conditions that KUB may reasonably require to ensure the effectiveness of the OFO.

Any volumes of gas delivered to the Customer by KUB in excess of the volumes provided for under the OFO shall be subject to the entire Unauthorized Gas Charge. If the volumes of gas delivered to the Customer by KUB are less than the volumes required to be delivered to the Customer under the OFO, the volumes not delivered to the Customer shall be subject only to the penalty portion of the Unauthorized Gas Charge.

Unauthorized Gas Charge

No Customer shall take Unauthorized Gas. A Customer must immediately notify KUB if it has taken, or anticipates taking, Unauthorized Gas. In the event a Customer takes Unauthorized Gas, the Customer shall be charged for all Unauthorized Gas delivered by KUB to the Customer the Unauthorized Gas Charge. In addition, KUB may suspend or terminate service and/or pursue any other remedy available to it under applicable law. The existence of an Unauthorized Gas Charge shall not be construed to give any Customer the right to take Unauthorized Gas. The penalty portion of the Unauthorized Gas Charge may be waived or reduced by KUB on a non-discriminatory basis.

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Balancing of Deliveries

As nearly as practical, Deliveries and Redeliveries shall be at uniform rates of flow. Due to Customer operating conditions, the quantities of gas Delivered to KUB and Redelivered to Customer during any particular period may not balance. It shall be the responsibility of the Customer to adjust Deliveries and Redeliveries of gas to maintain a daily balance of Deliveries and Redeliveries.

KUB will endeavor to monitor Deliveries and Redeliveries and, to the extent practical, inform the Customer of Imbalances which have occurred. KUB's failure to notify the Customer of an Imbalance shall not affect Customer's obligations under Rate Schedule G-12. All efforts to correct Imbalances by a Customer shall be coordinated with KUB.

KUB shall have the right to take any and all action necessary to limit Imbalances from connecting pipelines or which affect the integrity of KUB's system.

Resolution of Imbalances

The Customer's Imbalance for the month shall be the net total of daily Imbalances for the month. KUB shall divide the monthly Imbalance by the sum of the Deliveries to KUB for the Customer for each Day of the month to determine the percentage (%) monthly Imbalance. KUB shall resolve the monthly Imbalance according to the following schedules ("Imbalance Charges"):

Schedule A. Redeliveries exceed Deliveries - Customer shall pay KUB for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule A) for those volumes within the corresponding % monthly imbalance range.

% Monthly Imbalance	Price
0 - 5%	100% of Index Price
> 5 - 10%	115% of Index Price
>10 - 15%	130% of Index Price
>15 - 20%	140% of Index Price
>20%	150% of Index Price

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily, or if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Schedule B. Deliveries exceed Redeliveries - KUB shall pay the Customer for excess volumes at the applicable percentage of the Index Price (as defined in this Schedule B) for those volumes within the corresponding % monthly imbalance range.

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% Monthly Imbalance	Price
0 - 5%	100% of Index Price
> 5 - 10%	85% of Index Price
>10 - 15%	70% of Index Price
>15 - 20%	60% of Index Price
>20%	50% of Index Price

The Index Price shall be the total of: (a) the average of daily prices for the applicable Gulf Coast Price Index for the applicable month, as published in Gas Daily or, if Gas Daily is no longer published, in a comparable reliable source for natural gas prices and (b) the costs which would have been incurred by KUB in transporting such excess volumes via connecting pipelines to one or more of KUB's delivery points.

Minimum Bill

The minimum bill for each monthly billing period shall be the sum of the Customer Charge and the Demand Charge.

Contract for Service

Each Customer receiving service under Rate Schedule G-12 shall execute a contract with KUB to end on the November 1st specified in said contract.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

RATE SCHEDULE G-13
DISCOUNT GAS SERVICE RIDER

Definitions

"Agreement" means a Discount Gas Service Agreement for gas service under Rate Schedule G-13 between the Customer and KUB. The Agreement shall serve as an amendment to the Contract.

"Alternate Fuel" means any source of fuel used by a customer at its facilities as an alternative to natural gas.

"Bypass" means the delivery of natural gas directly to the facilities of a customer within the gas service territory of KUB by (1) a connecting interstate or intrastate natural gas pipeline or (2) a connecting alternate natural gas distribution system, without the transportation of such gas on KUB's natural gas distribution system.

"Contract" means an agreement for gas service from KUB under a commercial and industrial rate schedule between a customer and KUB.

"Customer" means a person or entity contracting with or otherwise receiving service from KUB under the Discount Gas Service Rider ("Rider").

"Purchased Gas Cost Component" means the portion of a rate charged by KUB to its customers for gas service which reflects the cost of purchasing gas and transporting it to the facilities of KUB for resale to its customers.

Availability

The Discount Gas Service Rider (the "Rider") is designed to permit KUB to discount rates set forth in the Gas Division's rate schedules for commercial and industrial gas service for any customer receiving gas service from KUB under a commercial and industrial rate schedule provided such customer meets the terms and conditions set forth herein.

Service under the Rider shall be available only (1) to meet competitive Alternate Fuel prices or (2) to avoid Bypass of KUB's natural gas distribution system, under the circumstances described below:

Alternate Fuel Prices

Customer's use of Alternate Fuel sources must, in the sole judgment of KUB, be deemed economically feasible and practical. Customer shall be required to provide KUB with an affidavit stating the Customer's intent to use Alternate Fuel sources absent service from KUB under the Rider. Customer shall also be required to provide KUB with documentation demonstrating to KUB that its Alternate Fuel source is available to Customer and the cost of the Alternate Fuel source is less than the otherwise applicable commercial and industrial gas rates charged to the Customer by KUB.

Bypass of Distribution System

Customer's facilities must be located within such distance of (1) an interstate or intrastate natural gas pipeline providing gas transportation or sales service or (2) an alternate natural gas distribution system, so that Bypass of KUB's natural gas distribution system is, in the sole judgment of KUB, deemed economically feasible and practical.

Customer shall provide KUB with an affidavit stating the Customer's intent to Bypass KUB's natural gas distribution system absent service from KUB under the Rider. Customer shall also provide KUB with any other such documentation requested by KUB to verify the investment required on part of the Customer to take gas service directly from the applicable interstate or intrastate natural gas pipeline or alternate natural gas distribution system.

Additional Conditions

In addition, any Customer receiving service under the Rider must meet the following conditions:

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(a) Customer's annual gas consumption, on an actual or projected basis, shall not be less than 25,000 dekatherms (one dekatherm is equivalent to ten therms);

(b) Customer must have executed a Contract to receive gas service from KUB under a commercial and industrial rate schedule; and

(c) Customer must execute a Discount Gas Service Agreement .

If, for any reason, Customer shall fail to satisfy the conditions necessary for service under the Rider, service under the Rider shall no longer be available; however, Customer may continue to receive gas service from KUB under the applicable commercial and industrial rate schedule provided the Customer continues to satisfy the conditions required for service under such rate schedule.

Character of Service

Customer must make a written request to KUB for service under the Rider. The request must describe the circumstances under which the customer is seeking to receive service under the Rider (Alternate Fuel prices or Bypass). Customer's request for service under the Rider and the amount of any discount provided Customer under the Rider must be previously approved by the President of KUB (or such designated agent authorized by the President of KUB to act on the President's behalf) prior to the Customer receiving service under the Rider. Customer must have previously executed a Contract prior to receiving service under the Rider.

Unless expressly stated otherwise in the Agreement for service under the Rider, all the terms and conditions of the Customer's applicable commercial and industrial rate schedule shall remain in effect while the Customer is receiving service under the Rider.

KUB shall conduct an economic analysis of the circumstances under which the customer is seeking to receive service under the Rider (Alternate Fuel prices or Bypass). Customer shall, at the request of KUB, provide any and all information necessary for KUB to conduct such an analysis. The analysis shall determine, among other things, the cost to the customer of using an Alternate Fuel or the cost to the customer to Bypass KUB's natural gas distribution system, as applicable. If Customer is approved for service under the Rider, KUB shall discount the rates set forth in the Customer's applicable commercial and industrial rate schedule in such a manner that the Customer's cost of receiving gas service from KUB is competitive with the Customer's cost of using an Alternate Fuel or Bypassing KUB's natural gas distribution system, as applicable.

The following charges specified in KUB's commercial and industrial gas rate schedules shall be subject to being discounted under the Rider: Customer Charges, Demand Charges, Commodity Charges for Firm Gas and/or Interruptible Gas, and Transportation Charges. Commodity Charges for Firm Gas and/or Interruptible Gas shall not be discounted below the applicable Purchased Gas Cost Component plus $.10 (ten cents) per dekatherm. Transportation Charges shall not be discounted below $.10 (ten cents) per dekatherm.

Discounted rates are subject to adjustment by KUB on a periodic basis, as determined by KUB in its sole discretion; provided, however, that the circumstances under which the Customer warranted service under the Rider shall be evaluated by KUB on no less than a biannual basis for such period of time Customer is receiving service under the Rider. Customer shall, at the request of KUB, provide any and all information necessary for KUB to evaluate the circumstances by which Customer was granted service under the Rider. Based upon an analysis of information received from the Customer or obtained by KUB of its own accord, KUB shall have the right to adjust the discount provided to the Customer up to the point of ceasing to provide service to the Customer under the Rider.

Discount Gas Service Agreement

Customer shall enter into an Agreement with KUB for service under the Rider. The Agreement shall serve as an amendment to the Customer's previously executed Contract for commercial and industrial gas service with KUB. Subject to KUB's right to re-evaluate and adjust the discount provided for under the Agreement, the Agreement shall specify the discount to be provided by KUB to the Customer and any other such terms and conditions as KUB determines are necessary to effectuate service under the Rider.

KUB may amend the Agreement, at its sole discretion, to provide for an adjustment in the discount provided to the Customer. KUB shall provide such notice to the Customer, as deemed appropriate by KUB, of any adjustment in the discount provided to the Customer under the Agreement. Any such adjustment in the discount provided the Customer shall be in accordance with KUB's periodic evaluation of the circumstances warranting service under the Rider.

RATE SCHEDULE G-14
ALTERNATIVE GAS PRICING RIDER

Definitions

"Alternative Gas Pricing Agreement" means the agreement between KUB and the Customer providing the Customer gas service under the Alternative Gas Pricing Rider ("Pricing Rider") and shall be considered an amendment to the Contract to provide gas between KUB and the Customer.

"Alternative Gas Pricing Guidelines" means the policies and procedures established by KUB for the implementation and administration of the Pricing Rider.

"Customer" means a person or entity receiving service from KUB under the Pricing Rider.

"Firm Gas Adder" means the component of the Customer's commodity gas rate for the costs incurred by KUB for reserving interstate natural gas pipeline and storage capacity by KUB on behalf of the Customer.

"KUB System Supply Price" means the weighted average cost of gas delivered to KUB's gas distribution system for a given month for resale to customers on the KUB gas distribution system (excluding gas sold to customers under the Pricing Rider).

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"KUB System Transportation Charge" means the cost of transporting gas on KUB's gas distribution system on behalf of the Customer to the facilities of the Customer as determined by the KUB Board of Commissioners in their sole discretion.

"Locked-Price Gas" means gas whose rate is pre-determined.

"Market-Price Gas" means gas whose rate is based upon a first-of-the-month natural gas price for Tennessee, Zone 0 as published in Platts Gas Daily Price Guide. In the event the price is not published for the month then a comparable monthly index shall be substituted as determined by KUB. If the above publication ceases to be published during the term hereof, its successor publication shall be used or, if there is no successor, then a comparable monthly published index shall be substituted in replacement thereof.

"Price Cashout" means the monthly reconciliation process between the Customer and KUB in which the Customer's gas volume obligations for Locked-Price Gas are reconciled with KUB.

Availability

The Pricing Rider is designed to provide large commercial and industrial customers receiving gas service from KUB with the opportunity and means to manage the cost of their natural gas purchases from KUB by providing pricing alternatives for the applicable commodity gas rates set forth in their applicable commercial and industrial rate schedules.

Service under the Pricing Rider shall be available to G-7 or G-11 commercial and industrial customers receiving gas service from KUB under the terms and conditions set forth below

(a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 25,000 dekatherms.

(b) For a Customer receiving service under Rate Schedule G-11, Transportation Gas Service, pricing alternatives shall be applicable only to Firm Gas.

(c) Customer may be required to provide KUB with appropriate financial information prior to receiving service under the Pricing Rider and subsequently on a periodic basis, for the purpose of evaluating the Customer's creditworthiness. KUB reserves the right, in its sole discretion, to deny any Customer service under the Pricing Rider based upon KUB's evaluation of the Customer's creditworthiness or authorize any appropriate security arrangement, if necessary, for the Customer to receive service under the Pricing Rider. KUB also reserves the right, in its sole discretion, to refuse to execute any particular alternative price transaction on behalf of a Customer based upon KUB's initial or any subsequent evaluation of the Customer's creditworthiness.

(d) Customer must execute an Alternative Gas Pricing Agreement which shall serve as an amendment to the Customer's existing contract to receive gas service from KUB. Customer must have previously executed a contract to receive gas service from KUB prior to receiving service under the Pricing Rider.

(e) Customer must comply with any other terms and conditions required for service under the Pricing Rider which may be set forth in the Alternative Gas Pricing Guidelines.

In the event a Customer fails to satisfy the conditions necessary for service under the Pricing Rider, service under the Pricing Rider, as determined by KUB in its sole discretion, may no longer be available; however, the Customer may continue to receive gas service from KUB under the applicable commercial and industrial rate schedule provided the Customer continues to satisfy the conditions required for service under such rate schedule and the Customer's Contract, as amended with KUB.

Upon determination that service under the Pricing Rider is no longer available to a Customer, the Customer shall still be permitted to receive service under the Pricing Rider until such point in time that the Customer's outstanding Locked-Price Gas commitments have been fulfilled.

Unless expressly provided for otherwise in the Pricing Rider or in the Alternative Gas Pricing Guidelines, all the terms and conditions of the Customer's applicable commercial and industrial rate schedule shall remain in effect while the Customer is receiving service under the Pricing Rider.

Character of Service

Alternative pricing shall be applicable only for the Customer's Commodity Gas Rates for Firm Gas and Interruptible Gas ("Commodity Gas Rates"). Interruptible Gas shall still be subject to periods of interruption under the terms and conditions set forth in the Customer's applicable commercial and industrial rate schedule.

For a Customer receiving service under the Pricing Rider, the Commodity Gas Rates set forth in the Customer's applicable commercial and industrial rate schedule shall not be effective. Commodity Gas Rates for a Customer receiving service under the Pricing Rider shall be based upon the pricing alternative selected by the Customer as described below and agreed upon by KUB.

(a) <u>Locked-Price Gas</u>: Commodity Gas Rates shall be locked or pre-determined at the time KUB executes the pricing transaction on behalf of the Customer. The Commodity Gas Rate shall consist of the cost incurred by KUB for purchasing the gas on the open market for the benefit of the Customer plus the cost of transporting the gas on connecting interstate natural gas pipelines to KUB's gas distribution system plus the KUB System Transportation Charge; or

(b) <u>Market-Price Gas:</u> Commodity Gas Rates shall consist of the applicable market index, supplier premium, and the cost of transporting the gas on connecting interstate natural gas pipelines to KUB's gas distribution system plus the KUB System Transportation Charge.

Regardless of the pricing alternative utilized by the Customer, the Customer's commodity gas rate for Firm Gas shall also include a Firm Gas Adder for the costs incurred by KUB for interstate natural gas pipeline and storage capacity reservation charges.

The Market-Price alternative shall be the default pricing mechanism for Commodity Gas Charges. If KUB does not execute any Locked-Price transactions on behalf of a Customer for a given month, the Customer's Commodity Gas Charges for that particular month shall be based upon the Market-Price alternative. The Commodity Gas Charges for any gas delivered by KUB to the facilities of the Customer for a given month in excess of Locked-Price Gas shall be Market-Price Gas (excluding Transport Gas, Supplemental Gas, and Unauthorized Gas).

KUB incurs an obligation for Locked-Price Gas volumes when it executes transactions on behalf of a Customer. If, for whatever reason, the gas volumes delivered by KUB to the Customer for any month are less than the gas volumes the Customer has locked for such month, the net difference (excluding Transport Gas, Supplemental Gas, and Unauthorized Gas) shall be reconciled on a monthly basis through a Price Cashout.

If the price of the Locked-Price Gas delivered to KUB exceeds the KUB System Supply Price, the Customer shall pay a Price Cashout Charge equal to the excess price multiplied by the applicable volumes not delivered by KUB to the Customer for such month. If the KUB System Supply Price exceeds the price of the Locked-Price Gas delivered to KUB on behalf of the Customer, the Customer shall receive a Price Cashout Credit equal to the excess price multiplied by the applicable volumes not delivered by KUB to the Customer for such month.

A Customer receiving service under the Pricing Rider shall not be permitted to revert to the Commodity Gas Rates set forth in its applicable commercial and industrial rate schedule so long as the Customer has any outstanding Locked-Price Gas commitments.

Alternative Gas Pricing Guidelines

The President and Chief Executive Officer of KUB shall have the authority to adopt and amend such Alternative Gas Pricing Guidelines as are necessary to establish policies and procedures to implement the pricing alternatives set forth in the Pricing Rider.

All service provided under the Pricing Rider shall be subject to the Alternative Gas Pricing Guidelines which from time to time shall be in effect.

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HISTORIC CAPITALIZATION AND CUSTOMERS

Natural Gas Division Capitalization - Historic

	Fiscal Year	Accumulated Earnings	Revenue Bonds	Revenue Notes	Total Capitalization	Debt as % of Capitalization
Historical	2016	$ 193,916,737	$ 102,125,000	$ -	$ 296,041,737	34.50%
	2017	$ 200,006,747	$ 107,220,000	$ -	$ 307,226,747	34.90%
	2018	$ 218,704,046	$ 113,290,000	$ -	$ 331,994,046	34.12%
	2019	$ 234,361,736	$ 114,940,000	$ -	$ 349,301,736	32.91%
	2020	$ 250,139,380	$ 105,510,000	$ -	$ 355,649,380	29.67%

Natural Gas Division Customers - Historic

(Measured by Bills Rendered)

Historical Number of Customers	2016	2017	2018	2019	2020
Residential	90,395	91,556	92,680	93,804	94,852
Commercial	9,333	9,386	9,445	9,522	9,513
Industrial	80	81	74	73	68
Total	99,808	101,023	102,199	103,399	104,433

Historic Natural Gas Division Use

The following table shows historical figures for Knox County's population, the Natural Gas Division's number of customers, and gas sales.

Fiscal Year	Knox Co. Population	Number of Customers	Total Sales Therms
2000	382,032	74,388	119,826,424
2005	409,530	88,664	114,625,160
2010	432,226	92,420	125,640,659
2016	456,132	99,808	112,569,404
2017	461,860	101,023	109,786,888
2018	465,289	102,199	132,621,708
2019	470,313	103,399	125,222,955
2020	470,313	104,433	121,227,986

KNOXVILLE UTILITIES BOARD
NATURAL GAS DIVISION
OPERATING STATISTICS
for the Fiscal Years ending on June 30

Revenues:	2016	2017	2018	2019	2020
Residential	$ 48,250,670	$ 48,737,567	$ 62,971,505	$ 58,310,667	$ 55,805,195
Commercial	33,483,355	35,300,651	43,711,027	42,072,025	39,211,225
Industrial	2,042,906	2,613,249	2,405,274	2,081,737	1,766,292
Transportation	3,332,103	3,327,550	3,727,606	4,339,993	4,104,281
Total Sales Revenues	$ 87,109,034	$ 89,979,017	$ 112,815,412	$ 106,804,422	$ 100,886,993
Other Revenues	$ 1,332,110	$ 1,889,299	$ 1,723,776	$ 1,747,257	$ 1,678,275
Total Revenues	$ 88,441,144	$ 91,868,316	$ 114,539,188	$ 108,551,679	$ 102,565,268
Gas Usage - Therms:					
Residential	43,682,276	40,992,900	54,518,008	50,651,026	48,961,801
Commercial	43,578,299	43,099,399	51,497,286	49,350,647	48,708,950
Industrial	3,994,951	5,085,519	4,434,418	3,838,870	3,626,728
Transportation	21,313,878	20,609,070	22,171,996	21,382,412	19,930,507
Total Gas Usage	112,569,404	109,786,888	132,621,708	125,222,955	121,227,986
Number of Customers:					
Residential	90,395	91,556	92,680	93,804	94,852
Commercial	9,333	9,386	9,445	9,522	9,513
Industrial	80	81	74	73	68
Total Customers	99,808	101,023	102,199	103,399	104,433
Purchased Gas:					
Therms	93,405,938	86,538,076	105,250,878	99,300,908	98,580,493
Total Cost	$ 41,322,371	$ 43,714,612	$ 56,064,182	$ 49,719,205	$ 43,174,882
Wholesale Gas Cost:					
as % of Sales	47.44%	48.58%	49.70%	46.55%	42.80%

KNOXVILLE UTILITIES BOARD
NATURAL GAS DIVISION
CONDENSED STATEMENTS OF REVENUE, EXPENSES AND CHANGES IN NET POSITION
for the Fiscal Years ending on June 30

	2016	2017	2018	2019	2020
Operating Revenues:	$ 88,441,144	$ 91,868,316	$ 114,539,188	$ 108,551,679	$ 102,565,268
Operating Expenses:					
Purchased gas	$ 41,212,470	$ 43,714,612	$ 56,077,555	$ 49,664,494	$ 43,117,323
Distribution	8,304,516	9,138,948	8,656,548	9,757,364	10,099,893
Consumer service	2,676,224	2,718,267	2,485,604	2,887,626	2,468,491
Administrative and general	5,983,853	6,231,842	5,265,333	6,804,856	7,556,812
Provision for depreciation	11,481,432	12,261,903	12,717,222	12,877,969	12,910,308
Taxes and tax equivalents	7,390,744	7,692,016	7,614,735	7,863,381	7,629,000
Total Operating Expenses	$ 77,049,239	$ 81,757,588	$ 92,816,997	$ 89,855,690	$ 83,781,827
Operating income	$ 11,391,905	$ 10,110,728	$ 21,722,191	$ 18,695,989	$ 18,783,441
Non-Operating Revenues / Expenses:					
Contributions in aid of construction	$ 7,078,153	$ 1,129,503	$ 3,954,439	$ 484,617	$ 610,598
Interest and dividend income	183,418	290,772	634,149	1,167,245	834,141
Interest expense	(4,104,192)	(4,259,626)	(4,420,436)	(4,524,560)	(4,177,200)
Write-down of plant for costs	(7,078,153)	(1,129,503)	(3,954,439)	(484,617)	(610,598)
Other	105,262	(51,864)	(27,588)	289,225	337,262
Total Non-Operating	(3,815,512)	(4,020,718)	(3,813,875)	(3,068,090)	(3,005,797)
Change in Net Position before Capital Contributions	$ 7,576,393	$ 6,090,010	$ 17,908,316	$ 15,627,899	$ 15,777,644
Capital Contributions	-	-	20,125	29,791	-
Change in Net Position	$ 7,576,393	$ 6,090,010	$ 17,928,441	$ 15,657,690	$ 15,777,644
Net Position, beginning of year	$ 186,340,344	$ 193,916,737	$ 200,006,747	$ 218,704,046	$ 234,361,736
Adjustment	-	-	768,858	-	-
Net Position, end of year	**$ 193,916,737**	**$ 200,006,747**	**$ 218,704,046**	**$ 234,361,736**	**$ 250,139,380**

Source: The above amounts have been derived from the Annual Audited Financial Statements of the Knoxville Utilities Board - Natural Gas Division and the Board's internal financial records should be read in conjunction therewith.

OPERATING AND FINANCIAL HISTORY OF THE NATURAL GAS DIVISION

Sales in Therms

Fiscal Year	Residential	Commercial	Industrial	Off-System	Transportation	Total
2011	52,999,976	41,681,964	6,519,234	-	20,032,953	121,234,127
2012	40,617,163	39,651,688	5,854,174	-	18,994,272	105,117,297
2013	50,408,439	45,014,229	4,389,592	-	19,740,158	119,552,418
2014	55,254,696	45,955,199	4,173,547	-	19,133,261	124,516,703
2015	54,158,219	46,675,048	4,393,471	-	20,172,429	125,399,167
2016	43,682,276	43,578,299	3,994,951	-	21,313,878	112,569,404
2017	40,992,900	43,099,399	5,085,519	-	20,609,070	109,786,888
2018	54,518,008	51,497,286	4,434,418	-	22,171,996	132,621,708
2019	50,651,026	49,350,647	3,838,870	-	21,382,412	125,222,955
2020	48,961,801	48,708,950	3,626,728	-	19,930,507	121,227,986

Total Operating Revenue

Fiscal Year	Residential	Commercial	Industrial	Off-System	Transportation	Other	Total
2011	$ 60,012,290	$ 38,631,195	$ 4,154,102	$ -	$ 2,479,626	$ 1,005,009	$ 106,282,222
2012	$ 46,481,476	$ 33,408,662	$ 3,519,613	$ -	$ 2,371,864	$ 979,072	$ 86,760,687
2013	$ 57,901,404	$ 39,205,175	$ 2,588,304	$ -	$ 2,445,766	$ 1,456,606	$ 103,597,256
2014	$ 65,725,301	$ 44,399,434	$ 2,740,353	$ -	$ 2,651,392	$ 1,629,254	$ 117,145,734
2015	$ 64,219,032	$ 43,173,740	$ 2,812,024	$ -	$ 3,024,641	$ 939,347	$ 114,168,784
2016	$ 48,250,670	$ 33,483,355	$ 2,042,906	$ -	$ 3,332,103	$ 1,332,110	$ 88,441,144
2017	$ 48,737,567	$ 35,300,651	$ 2,613,249	$ -	$ 3,327,550	$ 1,889,299	$ 91,868,316
2018	$ 62,971,505	$ 43,711,027	$ 2,405,274	$ -	$ 3,727,606	$ 1,723,776	$ 114,539,188
2019	$ 58,310,667	$ 42,072,025	$ 2,081,737	$ -	$ 4,339,993	$ 1,747,257	$ 108,551,679
2020	$ 55,805,195	$ 39,211,225	$ 1,766,292	$ -	$ 4,104,281	$ 1,678,275	$ 102,565,268

Growth Rates for Key Operating Data

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Number of Customers	0.71%	1.22%	1.16%	1.17%	1.00%
Total Sales (Therms)	-10.23%	-2.47%	20.80%	-5.58%	-3.19%
Total Operating Revenues	-22.53%	3.88%	24.68%	-5.23%	-5.51%

TEN LARGEST GAS SYSTEM CUSTOMERS - 2020

The ten largest Natural Gas System customers, as of June 30, 2020, in order of total sales generated are listed below. Those ten gas customers represent 10.81% of the total gas sales based on revenue and 26.70% of division sales volumes (therms).

	Customer	Consumption Therms	Gas Sales Revenue	Percent of Sales Revenue
1.	University of Tennessee	13,834,390	$ 4,877,871	4.83%
2.	Cemex Inc	1,785,248	809,116	0.80%
3.	*CMC Steel US LLC**	5,507,505	803,421	0.80%
4.	Knox County Schools	767,433	784,981	0.78%
5.	Fresenius USA Manufacturing, Inc	1,010,381	705,385	0.70%
6.	*Valley Proteins Inc**	2,875,499	634,864	0.63%
7.	KUB	660,416	583,500	0.58%
8.	*Rohm & Haas Tennessee Inc**	2,149,815	580,799	0.58%
9.	*University Health Systems Inc**	2,984,722	569,426	0.56%
10.	Green Mountain Coffee Roasters Inc	797,999	556,732	0.55%
	TOTAL	**32,373,408**	**10,906,095**	**10.81%**

**KUB Transport Customer*

Total Gas Sales Revenue		$ 100,886,993
Top 10 as Percent of Total Gas Sales Revenue		10.81%
Total Gas Sales Volume (Therms)	121,227,986	
Top 10 as Percent of Total Gas Sales Volume	26.70%	

KNOXVILLE UTILITIES BOARD
NATURAL GAS DIVISION
BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Natural Gas Division.

Amount Issued	Series	Due Date	Interest Rates	Outstanding as of June 30, 2020 (1)
24,920,000	Gas System Revenue Refunding Bonds, Series Q-2012	03-01-29	Fixed	14,005,000
10,000,000	Gas System Revenue Bonds, Series R-2012	03-01-33	Fixed	7,700,000
11,580,000	Gas System Revenue Refunding Bonds, Series S-2013	03-01-31	Fixed	9,005,000
25,000,000	Gas System Revenue Bonds, Series T-2013	03-01-35	Fixed	22,400,000
11,780,000	Gas System Revenue Refunding Bonds, Series U-2015	03-01-31	Fixed	9,625,000
12,000,000	Gas System Revenue Bonds, Series V-2016	03-01-46	Fixed	11,050,000
8,065,000	Gas System Revenue Refunding Bonds, Series W-2017	03-01-27	Fixed	6,015,000
12,000,000	Gas System Revenue Bonds, Series X-2017	03-01-47	Fixed	11,320,000
8,000,000	Gas System Revenue Bonds, Series Y-2018	03-01-48	Fixed	7,635,000
6,755,000	Gas System Revenue Refunding Bonds, Series Z-2020	03-01-30	Fixed	6,755,000
$ 130,100,000	**TOTAL DEBT**			$ 105,510,000
$ 41,920,000	Gas System Revenue Refunding Bonds, Series AA-2021	03-01-33	Fixed	$ 41,920,000
(71,500,000)	Less: Bonds Refinanced (Series Q-2012, R-2012, S-2013, and T-2013)			(49,090,000)
$ 100,520,000	**TOTAL INDEBTEDNESS**			$ 98,340,000

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

KNOXVILLE UTILITIES BOARD
NATURAL GAS DIVISION
DEBT SERVICE REQUIREMENTS

Fiscal Year	Outstanding Fiscal Year Debt Service on Bonds as of June 30, 2020			Gas System Revenue Bonds, Series AA-2021			% Principal Repaid on Series AA-2021 Bonds	Less: Refunded Bonds			TOTAL DEBT SERVICE (1)			% Principal Repaid on All Debt
	Principal	Interest	Total	Principal	Interest (2)	Total		Principal	Gross Interest	Total	Principal	Interest	Total	
2021	$ 6,745,000	$ 3,802,180	$ 10,547,180	$ -	$ -	$ -	0.00%	$ -	$ -	$ -	$ 6,745,000	$ 3,802,180	$ 10,547,180	6.86%
2022	6,930,000	3,582,735	10,512,735	4,005,000	1,667,250	5,672,250		(4,135,000)	(1,560,567)	(5,695,567)	6,800,000	3,689,418	10,489,418	
2023	7,230,000	3,295,335	10,525,335	3,730,000	1,723,500	5,453,500		(4,270,000)	(1,647,404)	(5,917,404)	6,690,000	3,371,431	10,061,431	
2024	7,495,000	3,016,873	10,511,873	3,590,000	1,537,000	5,127,000		(4,415,000)	(1,493,279)	(5,908,279)	6,670,000	3,060,594	9,730,594	
2025	6,875,000	2,729,173	9,604,173	3,395,000	1,357,500	4,752,500		(3,650,000)	(1,338,379)	(4,988,379)	6,620,000	2,748,294	9,368,294	
2026	7,130,000	2,470,835	9,600,835	3,220,000	1,187,750	4,407,750	42.80%	(3,755,000)	(1,219,191)	(4,974,191)	6,595,000	2,439,394	9,034,394	40.80%
2027	7,365,000	2,205,966	9,570,966	3,130,000	1,026,750	4,156,750		(3,865,000)	(1,095,573)	(4,960,573)	6,630,000	2,137,144	8,767,144	
2028	6,670,000	1,936,654	8,606,654	3,625,000	870,250	4,495,250		(4,005,000)	(966,435)	(4,971,435)	6,290,000	1,840,469	8,130,469	
2029	6,845,000	1,701,088	8,546,088	3,450,000	689,000	4,139,000		(4,135,000)	(827,625)	(4,962,625)	6,160,000	1,562,463	7,722,463	
2030	6,285,000	1,463,556	7,748,556	3,230,000	551,000	3,781,000		(3,540,000)	(684,875)	(4,224,875)	5,975,000	1,329,681	7,304,681	
2031	5,695,000	1,245,663	6,940,663	3,285,000	421,800	3,706,800	82.68%	(3,645,000)	(554,300)	(4,199,300)	5,335,000	1,113,163	6,448,163	71.70%
2032	3,750,000	1,050,313	4,800,313	3,865,000	290,400	4,155,400		(2,725,000)	(417,450)	(3,142,450)	4,890,000	923,263	5,813,263	
2033	3,820,000	910,313	4,730,313	3,395,000	135,800	3,530,800		(2,750,000)	(305,700)	(3,055,700)	4,465,000	740,413	5,205,413	
2034	3,195,000	767,525	3,962,525	-	-	-		(2,100,000)	(193,200)	(2,293,200)	1,095,000	574,325	1,669,325	
2035	3,210,000	639,550	3,849,550	-	-	-	100.00%	(2,100,000)	(96,600)	(2,196,600)	1,110,000	542,950	1,652,950	
2036	1,160,000	511,113	1,671,113	-	-	-		-	-	-	1,160,000	511,113	1,671,113	84.63%
2037	1,180,000	477,313	1,657,313	-	-	-		-	-	-	1,180,000	477,313	1,657,313	
ances post June	1,230,000	441,969	1,671,969	-	-	-		-	-	-	1,230,000	441,969	1,671,969	
2039	1,255,000	404,575	1,659,575	-	-	-		-	-	-	1,255,000	404,575	1,659,575	
2040	1,305,000	365,994	1,670,994	-	-	-		-	-	-	1,305,000	365,994	1,670,994	
2041	1,355,000	325,906	1,680,906	-	-	-		-	-	-	1,355,000	325,906	1,680,906	91.07%
2042	1,380,000	284,313	1,664,313	-	-	-		-	-	-	1,380,000	284,313	1,664,313	
2043	1,435,000	240,588	1,675,588	-	-	-		-	-	-	1,435,000	240,588	1,675,588	
2044	1,460,000	195,119	1,655,119	-	-	-		-	-	-	1,460,000	195,119	1,655,119	
2045	1,520,000	148,831	1,668,831	-	-	-		-	-	-	1,520,000	148,831	1,668,831	
2046	1,570,000	100,175	1,670,175	-	-	-		-	-	-	1,570,000	100,175	1,670,175	98.56%
2047	1,005,000	49,206	1,054,206	-	-	-		-	-	-	1,005,000	49,206	1,054,206	
2048	415,000	15,044	430,044	-	-	-		-	-	-	415,000	15,044	430,044	100.00%
	$ 105,510,000	**$ 34,377,901**	**$ 139,887,901**	**$ 41,920,000**	**$ 11,458,000**	**$ 53,378,000**		**$ (49,090,000)**	**$ (12,400,577)**	**$ (61,490,577)**	**$ 98,340,000**	**$ 33,435,324**	**$ 131,775,324**	

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) True Interest Cost of 1.4698%.

KNOXVILLE UTILITIES BOARD
NATURAL GAS DIVISION
HISTORICAL DEBT COVERAGE ON OUTSTANDING GAS SYSTEM BONDS
For the Fiscal Years Ending on June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2022) of the Outstanding Bonds and the Series AA-2021 Bonds for fiscal years ended June 30, 2016 through June 30, 2020 is set forth below.

	2016	2017	2018	2019	2020
Operating revenues	$ 88,441,144	$ 91,868,316	$ 114,539,188	$ 108,551,679	$ 102,565,268
Operating expenses *	(58,177,063)	(61,803,669)	(72,485,040)	(69,114,340)	(63,242,519)
Net income before depreciation & taxes	$ 30,264,081	$ 30,064,647	$ 42,054,148	$ 39,437,339	$ 39,322,749
Other revenue (Net)	183,418	290,772	634,149	1,167,245	834,141
FICA & Medicare Tax Expense	(653,095)	(704,651)	(755,423)	(713,329)	(800,899)
Income available for debt service	$ 29,794,404	$ 29,650,768	$ 41,932,874	$ 39,891,255	$ 39,355,991
Actual annual debt service requirements on outstanding bonds	$ 9,437,262	$ 9,916,869	$ 10,248,025	$ 10,859,512	$ 12,931,780
Coverage (Times)	3.16 x	2.99 x	4.09 x	3.67 x	3.04 x
Maximum annual debt service requirements (FY 2022) on Outstanding Bonds and the Series AA-2021 Bonds **	$ 10,489,418	$ 10,489,418	$ 10,489,418	$ 10,489,418	$ 10,489,418
Coverage (Times)	2.84 x	2.83 x	4.00 x	3.80 x	3.75 x

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.

APPENDIX C-2

GAS DIVISION
REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

Gas Division

Financial Statements and Supplemental Information
June 30, 2020 and 2019

KUB Board of Commissioners

Kathy Hamilton - Chair

Adrienne Simpson-Brown - Vice Chair

Dr. Jerry W. Askew

Celeste Herbert

Sara Hedstrom Pinnell

Tyvi Small

John Worden

Management

Gabriel Bolas II
President and
Chief Executive Officer

Mark Walker
Senior Vice President and
Chief Financial Officer

Susan Edwards
Senior Vice President and
Chief Administrative Officer

Derwin Hagood
Senior Vice President and
Chief Operating Officer

Eddie Black
Senior Vice President and
Chief Technology Officer

John Williams
Vice President of
Construction

Mike Bolin
Vice President of Utility
Advancement

Julie Childers
Vice President and
Century II Administrator

John Gresham
Vice President of
Operations

Knoxville Utilities Board Gas Division
Index
June 30, 2020 and 2019

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Independent Auditor's Report

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Gas Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

Management's Responsibility for the Financial Statements

The Division's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Gas Division of the Knoxville Utilities Board as of June 30, 2020 and 2019, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 25 and the required supplementary information on pages 64 through 68 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information which includes the Schedule of Expenditures of Federal Awards and State Financial Assistance, as required by Title 2 U.S. Code of Federal Regulations, Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and the State of Tennessee are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supplemental information which includes the Schedule of Expenditures of Federal Awards and State Financial Assistance is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, supplemental information and the Schedule of Expenditures of Federal Awards and State Financial Assistance are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The statistical information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Gas Division and do not purport to, and do not, present fairly the financial position of the Knoxville Utilities Board, as of June 30, 2020 and 2019, and the changes in its financial position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October, 29, 2020, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board (KUB), comprised of Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Gas Division (Division) provides services to certain customers in Knox County and portions of Anderson and Loudon counties. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Gas Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ended June 30, 2020 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

Gas Division Highlights

System Highlights

KUB's natural gas system serves 104,433 customers, and its service territory covers 293 square miles. KUB maintains 2,499 miles of service mains to provide 12.1 million dekatherms of natural gas to its customers annually.

KUB's natural gas system service territory experienced warmer temperatures this winter compared to the previous year. As a result, billed natural gas sales decreased 3.2 percent when compared to fiscal year 2019. Gas Division margin (operating revenue less purchased gas cost) was $0.6 million higher in fiscal year 2020. The increase is the net result of lower billed sales volumes and additional revenue from the natural gas system rate increase effective October 2019.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

The natural gas system's record peak in demand remains 140,204 dekatherms, set in January 2018.

The natural gas system has added 3,410 customers over the past three years representing annual growth of one percent. In fiscal year 2020, 1,034 customers were added.

The typical residential gas customer's average monthly gas bill was $55.88 for the twelve months ending June 30, 2020. The average monthly bill decreased $1.65 compared to last fiscal year, reflecting lower natural gas prices along with the October 2019 gas rate increase and the flow through of under recovered purchased gas costs from fiscal year 2019.

KUB's natural gas system was named to the American Public Gas Association's (APGA) System Operational Achievement Recognition (SOAR) Program in 2018, reflecting KUB's focus on system integrity, continuous improvement, safety, and employee development. KUB is a Silver level winner and remains a member of the program through 2020. KUB was designated a Safety Contest Winner for calendar year 2019 by APGA, indicating the lowest number of recordable injuries per labor-hours worked.

Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort, of which the Gas Division's share is $19.2 million. The deployment is funded in large part by debt issues and system revenues. As of June 30, 2020, KUB completed the final year of the four-year advanced meters deployment, including the installation of network communication devices, spending $12.8 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board of Commissioners to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of gas rate increases to support the Century II program. The three approved gas rate increases went into effect in October 2017, October 2018, and October 2019, generating $2.2 million, $2.3 million, and $2.3 million in additional annual Gas Division revenue, respectively.

During the fiscal year, KUB replaced 8.3 miles of steel gas main while staying on track with Century II goals and within the Gas Division's total capital budget.

Financial Highlights

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's net position increased $15.8 million in fiscal year 2020 compared to a $15.7 million increase in fiscal year 2019.

Operating revenue decreased $6 million or 5.5 percent. The decrease is attributable to lower billed volumes of 3.2 percent and lower natural gas prices, along with additional revenue from the 2 percent rate increase effective October 2019 and the flow through of prior year under recovered purchased gas costs to KUB's gas customers. KUB flows changes to wholesale gas costs directly through to its retail gas rates via the Purchased Gas Adjustment. Purchased gas expense was $6.5 million or 13.2 percent lower due to lower customer demand and lower natural gas prices. Margin on gas sales (operating revenue less purchased gas expense) increased $0.6 million or one percent, reflecting the decrease in gas sales volumes and additional revenue from the rate increase.

Operating expenses (excluding purchased gas expense) increased $0.5 million or 1.2 percent. Operating and maintenance (O&M) expenses were $0.7 million more than the prior fiscal year. Depreciation expense was consistent with the prior fiscal year. Taxes and tax equivalents were $0.2 million lower than the prior year.

Wholesale purchased gas expense represented 43 percent of natural gas sales revenue for the fiscal year ended June 30, 2020.

Interest income decreased $0.3 million compared to the prior fiscal year. Interest expense decreased $0.3 million.

Total plant assets (net) increased $16.6 million or 5.7 percent reflecting capital investment associated with the replacement of key gas system assets and other major system projects.

During fiscal year 2020, KUB sold $6.8 million in gas system revenue refunding bonds for the purpose of refinancing existing gas system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $1.8 million over the life of the bonds ($1.3 million on a net present value basis).

Long-term debt represented 29.7 percent of the Division's capital structure as of June 30, 2020, as compared to 32.9 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.61. Maximum debt service coverage was 3.73.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's net position increased $15.7 million in fiscal year 2019 compared to a $17.9 million increase last fiscal year. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for Other Post-Employment Benefits (OPEB), increased the total net position by $0.8 million during the fiscal year 2018. The change resulted in a total increase of $18.7 million in the Division's net position.

Operating revenue decreased $6 million or 5.2 percent. The decrease is attributable to lower billed volumes of 5.6 percent, additional revenue from the October 2018 rate increase and the flow through of prior year over recovered purchased gas costs to KUB's gas customers. KUB flows changes to wholesale gas costs directly through to its retail gas rates via the Purchased Gas Adjustment. Purchased gas expense was $6.4 million or 11.4 percent lower, primarily due to lower customer demand. Margin on gas sales (operating revenue less purchased gas expense) increased $0.4 million or 0.7 percent, reflecting the decrease in gas sales volumes and additional revenue from the rate increase.

Operating expenses (excluding purchased gas expense) increased $3.5 million or 9.4 percent. Operating and maintenance (O&M) expenses were $3 million more than the prior fiscal year. Depreciation expense increased $0.2 million, and taxes and tax equivalents were $0.2 million higher than the prior year.

Wholesale purchased gas expense represented 47 percent of natural gas sales revenue for the fiscal year ended June 30, 2019.

Interest income increased $0.5 million compared to the prior fiscal year. Interest expense increased $0.1 million.

Total plant assets (net) increased $14 million or 5 percent reflecting capital investment associated with the replacement of key gas system assets and other major system projects.

KUB sold $8 million in gas system revenue bonds in August 2018 for the purpose of funding gas system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

Long-term debt represented 32.9 percent of the Division's capital structure as of June 30, 2019, as compared to 34.1 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 3.68. Maximum debt service coverage was 3.66.

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Knoxville Utilities Board Gas Division - Financial Statements

The Division’s financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, gas plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets, restricted, or unrestricted. Net position represents what was previously reported as accumulated or retained earnings. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets is the net book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by the Division’s bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any contributions in aid of construction (funds received via grants, developers, etc. to fund capital projects) and associated write-downs of plant assets are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting. Net position at the beginning of the period are increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

Statement of Cash Flows

The Divisions reports its cash flows from operating activities, capital and related financing activities, and investing activities on its Statement of Cash Flows. This statement tells the user the Division’s sources and uses of cash during the reporting period.

The statement indicates the Division’s beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow back to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

Condensed Financial Statements

Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Gas Division compared to the prior two fiscal years.

Statements of Net Position
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Current, restricted and other assets	$ 68,686	$ 73,327	$ 75,388
Capital assets, net	308,722	292,090	278,095
Deferred outflows of resources	3,060	4,244	1,438
Total assets and deferred outflows of resources	380,468	369,661	354,921
Current and other liabilities	23,173	22,022	22,132
Long-term debt outstanding	103,659	112,624	111,661
Deferred inflows of resources	3,497	653	2,424
Total liabilities and deferred inflows of resources	130,329	135,299	136,217
Net position			
Net investment in capital assets	198,777	173,774	161,294
Restricted	2,113	2,174	2,050
Unrestricted	49,249	58,414	55,360
Total net position	$ 250,139	$ 234,362	$ 218,704

Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation:

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.
- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

Impacts and Analysis

Current, Restricted and Other Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Current, restricted and other assets decreased $4.6 million or 6.3 percent, primarily due to a $7 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments) offset by an increase in the actuarially determined net pension asset of $3.3 million.

KUB under recovered $1.5 million in wholesale gas costs from its customers in fiscal year 2020, as compared to an under recovery of $1.3 million in fiscal year 2019. This under recovery of costs will be collected from KUB's gas customers during the next fiscal year through adjustments to rates via the Purchased Gas Adjustment.

Gas storage decreased $1 million, reflecting ten percent higher storage volumes compared to the prior fiscal year at a 21.1 percent lower weighted average cost.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current, restricted and other assets decreased $2.1 million or 2.7 percent, primarily due to a decrease in the actuarially determined net pension asset of $3.4 million offset by an increase of $2 million in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments).

KUB under recovered $1.3 million in wholesale gas costs from its customers in fiscal year 2019, as compared to an over recovery of $1.5 million in fiscal year 2018. This under recovery of costs will be collected from KUB's gas customers during the next fiscal year through adjustments to rates via the Purchased Gas Adjustment.

Gas storage increased $0.2 million, reflecting three percent higher storage volumes compared to the prior fiscal year.

Capital Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Capital assets increased $16.6 million or 5.7 percent. Major capital expenditures during the year included $9.3 million for the construction of gas mains, $6.5 million for the construction of service extensions, $4.8 million for steel mains and services, and $1.3 million for the deployment of advanced metering equipment. The Gas Division retired $2.3 million of natural gas system assets during the fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Capital assets increased $14 million or 5 percent. Major capital expenditures during the year included $4.7 million for steel mains and services, $4.6 million for the replacement and relocation of gas system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects, $4.6 million for the construction of service extensions, $2.5 million for the construction of gas mains and $2 million for the deployment of advanced metering equipment. The Gas Division retired $4.7 million of natural gas system assets during the fiscal year.

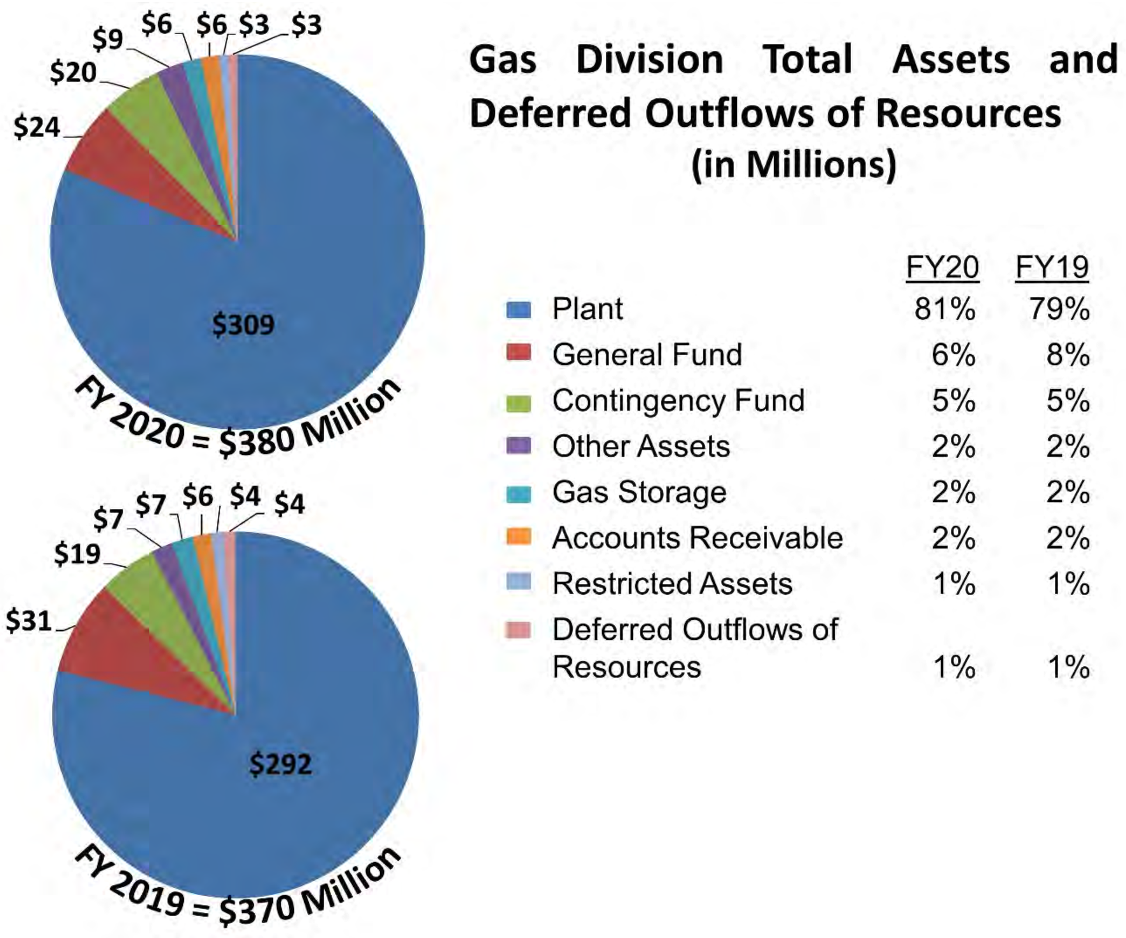
Deferred Outflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred outflows of resources decreased $1.2 million compared to the prior fiscal year. This decrease is attributable to a $1.6 million decrease in pension outflow partially offset by a $0.3 million increase in OPEB outflow.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred outflows of resources increased $2.8 million compared to the prior fiscal year. This increase is primarily attributable to a $2.6 million increase in pension outflow.



Gas Division Total Assets and Deferred Outflows of Resources (in Millions)

	FY20	FY19
Plant	81%	79%
General Fund	6%	8%
Contingency Fund	5%	5%
Other Assets	2%	2%
Gas Storage	2%	2%
Accounts Receivable	2%	2%
Restricted Assets	1%	1%
Deferred Outflows of Resources	1%	1%

Current and Other Liabilities

Fiscal Year 2020 Compared to Fiscal Year 2019

Current and other liabilities increased $1.2 million compared to the prior fiscal year. The current portion of revenue bonds increased $0.2 million and net OPEB liability increased $1 million.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current and other liabilities decreased $0.1 million compared to the prior fiscal year. The current portion of revenue bonds increased $0.4 million and net pension liability increased $1.1 million. These increases were offset by a decrease of $1 million in accounts payable compared to the prior fiscal year.

Long-Term Debt

Fiscal Year 2020 Compared to Fiscal Year 2019

Long-term debt was $9 million lower than the prior year. Natural gas system revenue refunding bonds of $6.8 million, sold in April 2020, along with a $2 million cash contribution to help retire existing debt were offset by the refunded bonds and the scheduled repayment of debt.

Fiscal Year 2019 Compared to Fiscal Year 2018

Long-term debt was $1 million higher than the prior year. Natural gas system revenue bonds of $8 million, sold in August 2018, were offset by the scheduled repayment of debt.

Deferred Inflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred inflows of resources increased $2.8 million compared to the prior fiscal year due to differences in pension inflows.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred inflows of resources decreased $1.8 million compared to the prior fiscal year due to differences in pension inflows.

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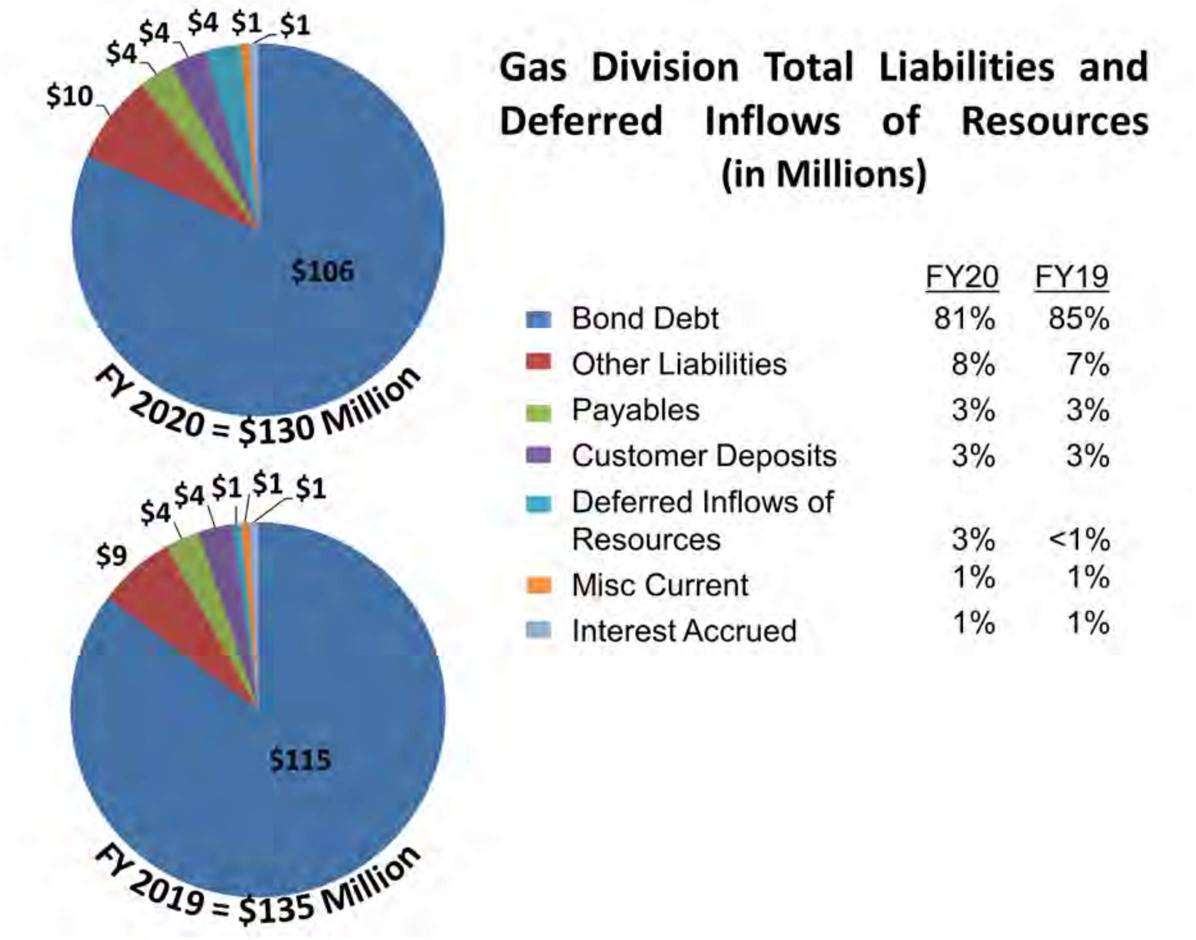

Gas Division Total Liabilities and Deferred Inflows of Resources (in Millions)

	FY20	FY19
■ Bond Debt	81%	85%
■ Other Liabilities	8%	7%
■ Payables	3%	3%
■ Customer Deposits	3%	3%
■ Deferred Inflows of Resources	3%	<1%
■ Misc Current	1%	1%
■ Interest Accrued	1%	1%

Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

Net position increased $15.8 million in fiscal year 2020. Unrestricted net position decreased $9.2 million, partially due to a $7 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments). Net investment in capital assets increased $25 million, due to an increase in net plant in service of $16.6 million along with a decrease of $8.7 million in the current portion of revenue bonds and total long-term debt. Restricted net position was $0.1 million lower than the prior fiscal year, due to a decrease in bond fund reserves.

Fiscal Year 2019 Compared to Fiscal Year 2018

Net position increased $15.7 million in fiscal year 2019. Unrestricted net position increased $3.1 million, primarily due to a $2.8 million increase in deferred outflows of resources. Investment in capital assets, net of debt, increased $12.5 million, primarily from an increase in net plant in service of $14 million offset by an increase of $1.7 million in the current portion of revenue bonds and total long-term debt. Restricted net position was $0.1 million higher than the prior fiscal year, based on increases in debt service.

Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Gas Division compared to the prior two fiscal years.

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Operating revenues	$ 102,565	$ 108,552	$ 114,539
Less: Purchased gas expense	43,117	49,665	56,077
Margin from sales	59,448	58,887	58,462
Operating expenses			
Distribution	10,100	9,757	8,657
Customer service	2,469	2,888	2,486
Administrative and general	7,557	6,805	5,265
Depreciation	12,910	12,878	12,717
Taxes and tax equivalents	7,629	7,863	7,615
Total operating expenses	40,665	40,191	36,740
Operating income	18,783	18,696	21,722
Interest income	834	1,167	634
Interest expense	(4,177)	(4,525)	(4,420)
Other income/(expense)	337	290	(28)
Change in net position before capital contributions	15,777	15,628	17,908
Capital contributions	-	30	20
Change in net position	$ 15,777	$ 15,658	$ 17,928

Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation:

- Operating revenue is largely determined by volume of natural gas sales for the fiscal year. Any change (increase/decrease) in retail gas rates would also be a cause of change in operating revenue. The Division utilizes a Purchased Gas Adjustment (PGA) mechanism in setting its monthly retail gas rates. Through the PGA, the Division adjusts its retail rates each month based on current wholesale gas prices. If wholesale gas prices increase/decrease, the Division increases/decreases its retail gas rates accordingly.

- Volumes of gas purchased from the Division’s wholesale gas suppliers for resale to customers impact purchased gas expense. The Division purchases gas for resale to its customers from a variety of wholesale suppliers. Changes (increase/decrease) in wholesale gas prices would also result in a change in purchased gas expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor costs (staffing, wage rates), active employee and retiree medical costs, and gas distribution system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements, changes in property tax rates, and margin (operating revenue less purchased gas expense) levels.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

Impacts and Analysis

Change in Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division’s Change in Net Position increased $15.8 million in fiscal year 2020, reflecting decreased operating revenues from a warmer winter along with lower purchased gas expenses. Comparatively, net position increased by $15.7 million in fiscal year 2019.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division’s Change in Net Position increased $15.7 million in fiscal year 2019, reflecting decreased operating revenues from a warmer winter along with lower purchased gas expenses. Comparatively, net position increased by $17.9 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for OPEB, increased the total net position by an additional $0.8 million. The change resulted in a total increase of $18.7 million in the Division’s net position.

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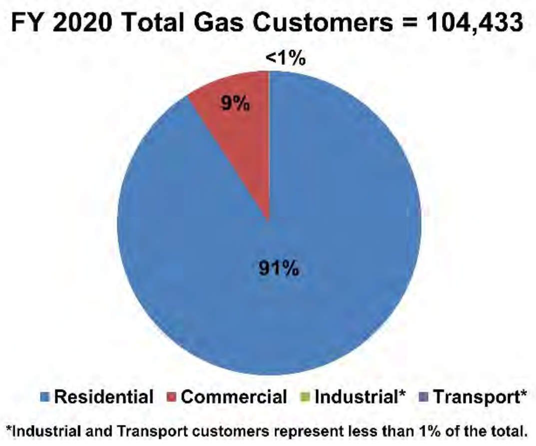
Margin from Sales

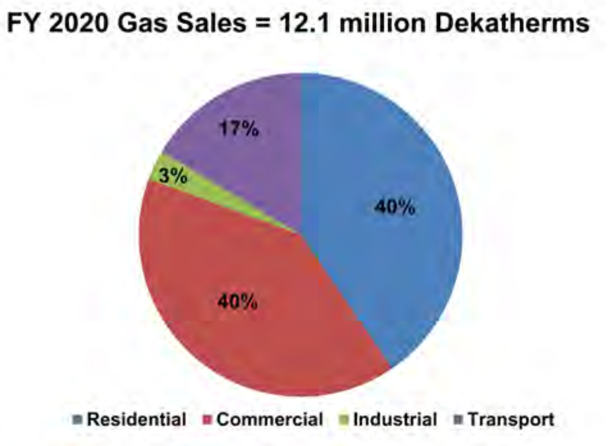
Fiscal Year 2020 Compared to Fiscal Year 2019

Margin on gas sales (operating revenue less purchased gas expense) increased $0.6 million, or one percent, due to revenue from the 2 percent rate increase effective October 2019 offset by a 3.2 percent decrease in billed sales volumes.

Operating revenue decreased $6 million or 5.5 percent for the fiscal year ended June 30, 2020. The gas system service territory experienced a warmer winter than the prior fiscal year. Billed sales were down 3.2 percent. The decrease in operating revenue reflected the net impact of decreased customer demand and additional revenue from the October 2019 rate increase.

Purchased gas expense decreased $6.5 million or 13.2 percent, due to decreased customer demand and lower natural gas prices. Total volumes delivered to KUB's gas distribution system decreased four percent this fiscal year. The Division's weighted average cost of gas purchased for fiscal year 2020 was $2.34 per dekatherm, as compared to $3.33 per dekatherm last year.





Residential customers, whose natural gas is primarily used as a heating source during winter months, accounted for 91 percent of customers billed and 40 percent of total volumes sold during the year.

Residential sales volumes decreased 3.3 percent, commercial sales volumes decreased 1.3 percent, industrial sales volumes decreased 5.5 percent, and transport sales volumes decreased 6.8 percent.

KUB's ten largest gas customers accounted for 27 percent of KUB's billed gas volumes. Those ten customers represent six industrial and four commercial customers, including three governmental customers.

KUB has added 3,410 gas customers over the past three years, representing annual growth of one percent. Natural Gas system growth has increased due to increased new housing construction.

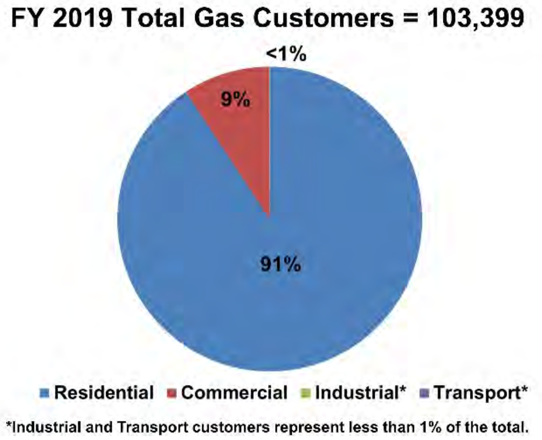
KUB has 16 transport customers who purchase gas directly from a supplier other than KUB. KUB provides transportation service on its gas distribution system to those customers.

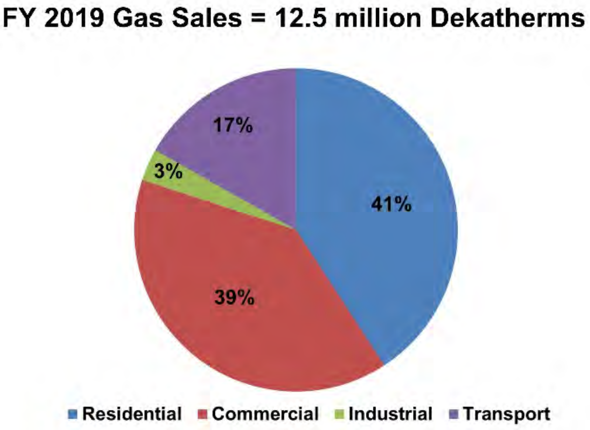
Fiscal Year 2019 Compared to Fiscal Year 2018

Margin on gas sales (operating revenue less purchased gas expense) increased $0.4 million or 0.7 percent due to revenue from the rate increase effective October 2018 and a 5.6 percent decrease in billed sales volumes.

Operating revenue decreased $6 million or 5.2 percent for the fiscal year ended June 30, 2019. The gas system service territory experienced a warmer winter than the prior fiscal year. Billed sales were down 5.6 percent. The decrease in operating revenue reflected the net impact of decreased customer demand and additional revenue from the October 2018 rate increase.

Purchased gas expense decreased $6.4 million or 11.4 percent, due to decreased customer demand. Total volumes delivered to KUB's gas distribution system decreased 2.4 percent this fiscal year. The Division's weighted average cost of gas purchased for fiscal year 2019 was $3.33 per dekatherm, as compared to $2.98 per dekatherm last year.





Residential customers, whose natural gas is primarily used as a heating source during winter months, accounted for 91 percent of customers billed and 41 percent of total volumes sold during the year.

Residential sales volumes decreased 7.1 percent, commercial sales volumes decreased 4.2 percent, industrial sales volumes decreased 13.4 percent and transport sales volumes decreased 3.6 percent. Industrial and transport sales were affected by the Enbridge pipeline incident in December 2018, which resulted in curtailment for KUB's largest customers.

KUB's ten largest gas customers accounted for 26 percent of KUB's billed gas volumes. Those ten customers represent six industrial and four commercial customers, including three governmental customers.

KUB has 17 transport customers who purchase gas directly from a supplier other than KUB. KUB provides transportation service on its gas distribution system to those customers.

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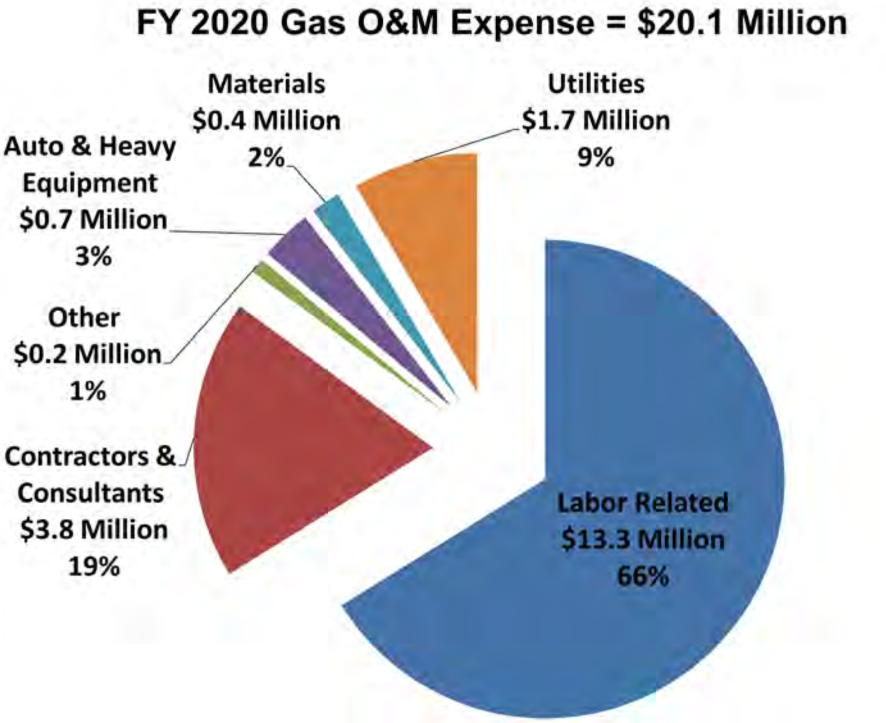
Operating Expenses

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating expenses (excluding purchased gas expense) increased $0.5 million or 1.2 percent compared to fiscal year 2019. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service, and administrative and general.

- Distribution system O&M expenses were $0.3 million higher than the prior fiscal year due to an increase in labor related expenses.
- Customer service expenses were $0.4 million lower than the prior fiscal year due to a decrease in outside contractors.
- Administrative and general expenses increased $0.8 million, primarily due to labor related expenses including higher OPEB costs.



- Depreciation expense was consistent with the prior year.
- Taxes and tax equivalents were $0.2 million lower than the prior fiscal year.

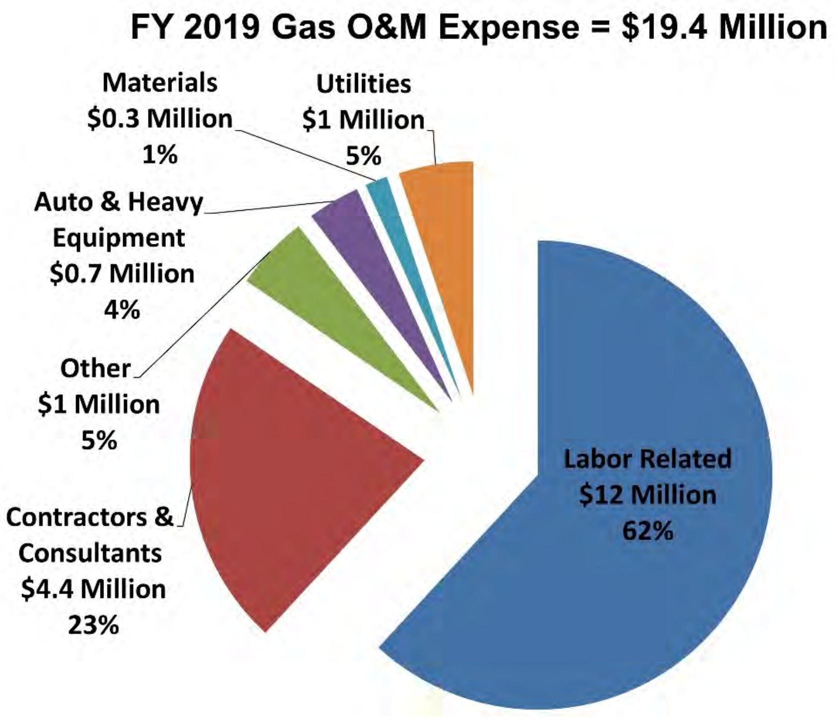
Fiscal Year 2019 Compared to Fiscal Year 2018

Operating expenses (excluding purchased gas expense) increased $3.5 million or 9.4 percent compared to fiscal year 2018. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as distribution, customer service, and administrative and general.

- Distribution system O&M expenses were $1.1 million higher than the prior fiscal year due to an increase in outside contractors and consultants.

- Customer service expenses were $0.4 million higher than the prior fiscal year due to an increase in outside contractors and consultants.

- Administrative and general expenses increased $1.5 million, primarily due to labor related expenses including higher pension expenses, reflecting impact of investment losses on Pension Trust assets in 2018.



- Depreciation expense was $0.2 million higher than the prior year, primarily due to increased depreciation due to Century II replacement programs, including advanced meters.

- Taxes and tax equivalents were $0.2 million higher than the prior fiscal year.

Other Income and Expense

Fiscal Year 2020 Compared to Fiscal Year 2019

Interest income was $0.3 million lower than the prior fiscal year, primarily due to lower short-term interest rates.

Interest expense decreased $0.3 million compared with the prior year, partially reflecting savings on refunding of outstanding bonds.

Other income (net) was consistent with the prior fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Interest income was $0.5 million higher than the prior fiscal year, primarily due to higher short-term interest rates.

Interest expense increased $0.1 million compared with the prior year.

Other income (net) increased $0.3 million, primarily due to mark-to-market adjustments on investments.

Capital Assets

Capital Assets
As of June 30
(Net of Depreciation)

(in thousands of dollars)	**2020**	**2019**	**2018**
Distribution Plant			
Mains	$ 183,967	$ 184,081	$ 185,208
Services and Meters/Regulators	77,745	74,076	66,914
Other Accounts	910	917	841
Total Distribution Plant	262,622	259,074	252,963
Total General Plant	$ 10,591	$ 9,174	$ 9,953
Total Plant Assets	273,213	268,248	262,916
Work In Progress	35,509	23,842	15,179
Total Net Plant	$ 308,722	$ 292,090	$ 278,095

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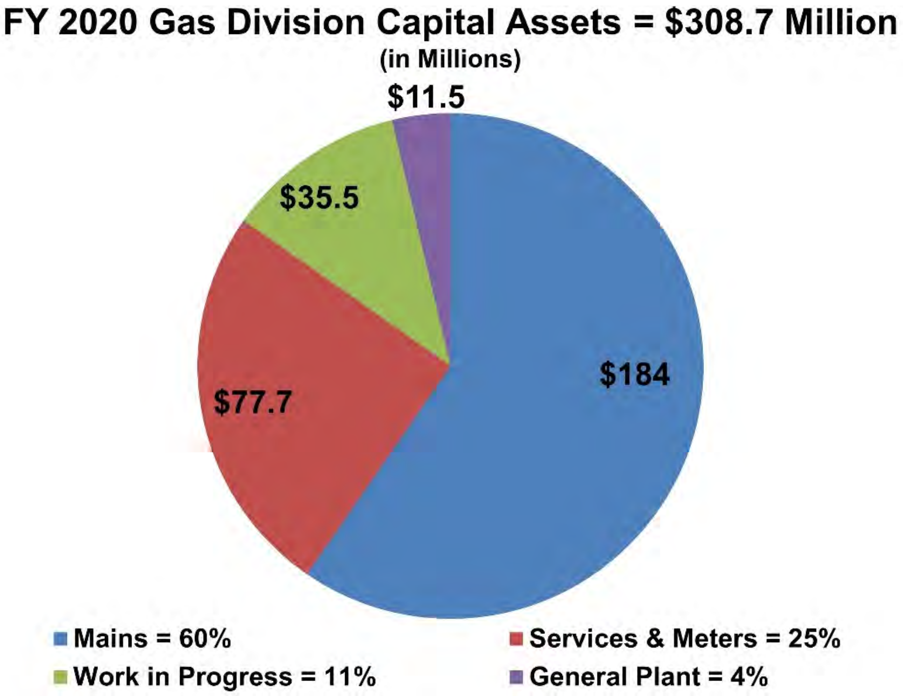
Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $308.7 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $16.6 million or 5.7 percent over the end of last fiscal year.



Major capital asset expenditures during the year were as follows:

- $9.3 million for the construction of gas mains
- $6.5 million for service extensions
- $4.8 million for steel mains and services
- $1.3 million for deployment of advanced metering equipment

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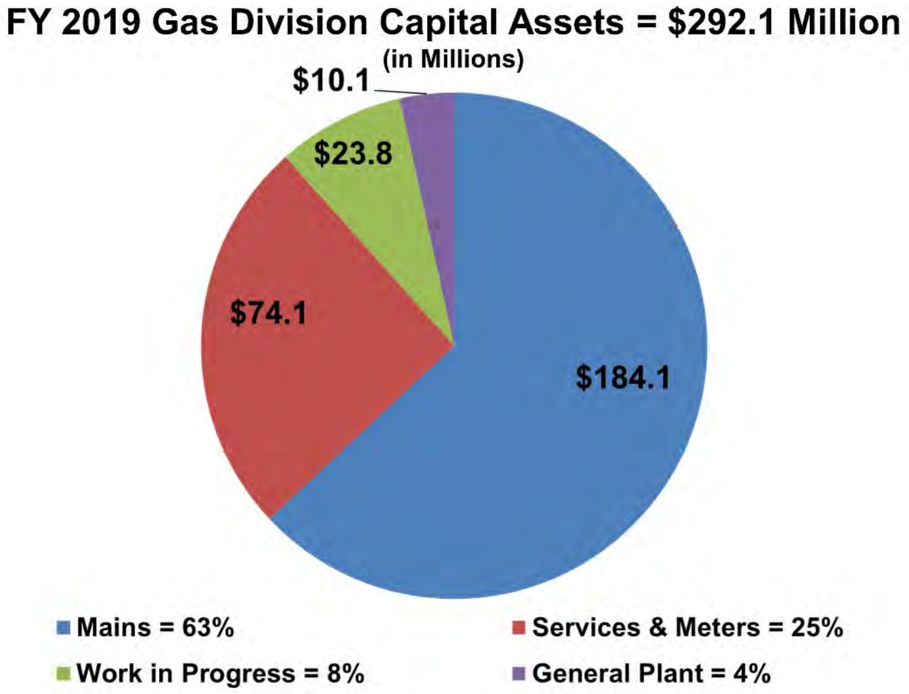
Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $292.1 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $14 million or 5 percent over the end of last fiscal year.



Major capital asset expenditures during the year were as follows:

- $4.7 million for steel mains and services
- $4.6 million for replacement and relocation of gas system assets to accommodate TDOT highway improvement projects
- $4.6 million for service extensions
- $2.5 million for the construction of gas mains
- $2 million for deployment of advanced metering equipment

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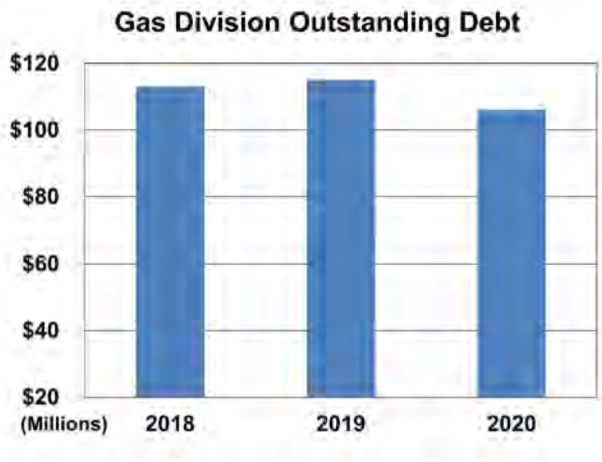
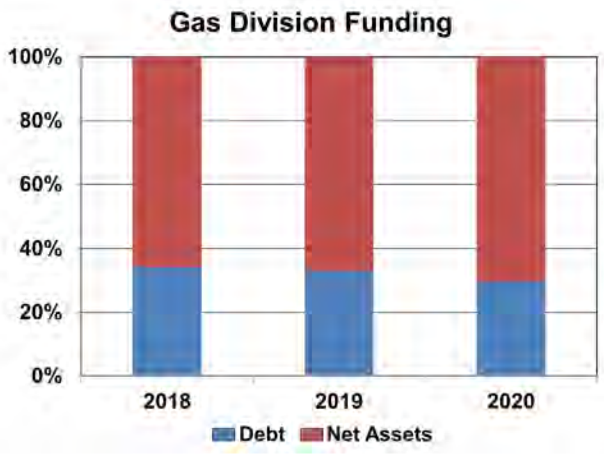
Debt Administration

As of June 30, 2020, the Gas Division had $105.5 million in outstanding gas system bonds. The bonds are secured solely by revenues of the Gas Division. Debt as a percentage of the Division's capital structure represented 29.7 percent in 2020, 32.9 percent in 2019, and 34.1 percent at the end of fiscal year 2018. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

Outstanding Debt
As of June 30

(in thousands of dollars)	2020	2019	2018
Revenue bonds	$ 105,510	$ 114,940	$ 113,290
Total outstanding debt	$ 105,510	$ 114,940	$ 113,290





The Division will pay $69.6 million in principal payments over the next ten years, representing 66 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 30 percent of gas debt principal be repaid over the next ten years.

Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $105.5 million in outstanding debt (including current portions of revenue bonds), compared to $114.9 million last year, representing a decrease of $9.4 million or 8.2 percent. The decrease is attributable to gas system revenue refunding bonds issued during the fiscal year, which included a $2 million cash contribution offset by the refunded bonds and the scheduled repayment of debt. The Division's weighted average cost of debt as of June 30, 2020, was 3.67 percent.

KUB sold $6.8 million in gas system revenue refunding bonds in April 2020 for the purpose of refinancing existing gas system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $1.8 million over the life of the bonds ($1.3 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 1.60 percent. The bonds mature over a period of 10 years with a final maturity in fiscal year 2030.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2020, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service.

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $114.9 million in outstanding debt (including current portions of revenue bonds), compared to $113.3 million last year, representing an increase of $1.6 million or 1.5 percent. The increase is attributable to new revenue bonds issued during the fiscal year offset by the scheduled repayment of debt. The Division's weighted average cost of debt as of June 30, 2019, was 3.82 percent (3.66 percent including the impact of Build America Bonds rebates).

KUB sold $8 million in gas system revenue bonds in August 2018 for the purpose of funding gas system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2019, the Division's revenue bonds were rated AA by Standard & Poor's and Aa2 by Moody's Investors Service.

Impacts on Future Financial Position

KUB expects to add 1,150 new gas customers in fiscal year 2021.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $538,506. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $623,078. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $128,728. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Gas Division's portion of this contribution is $83,141. The Plan's actuarial funded ratio is 97.68 percent.

GASB Statement No. 84, *Fiduciary Activities*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 87, *Leases*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period,* is effective for fiscal years beginning after December 15, 2020. GASB Statement No. 90, *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 91, *Conduit Debt Obligations*, is effective for fiscal years beginning after December 15, 2021. GASB Statement No. 92, *Omnibus 2020*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 93, *Replacement of Interbank Offered Rates*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 97, *Certain Component Unit Criteria, and*

Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans, is effective for fiscal years beginning after June 15, 2021. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division’s financial position or results of operations during fiscal year 2020.

Financial Contact

The Division’s financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division’s financial position and results of operations for the fiscal years ended June 30, 2020 and 2019. If you have questions about the statements or need additional financial information, contact KUB’s Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

Knoxville Utilities Board Gas Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Current assets:		
Cash and cash equivalents	$ 24,154,798	$ 31,187,947
Short-term contingency fund investments	18,035,654	14,806,601
Other current assets	1,123,260	734,244
Accrued interest receivable	1,041	12,553
Accounts receivable, less allowance of uncollectible accounts of $30,424 in 2020 and $35,670 in 2019	6,090,065	5,938,135
Inventories	890,890	2,073,199
Gas storage	6,296,386	7,251,486
Prepaid expenses	53,533	57,540
Total current assets	56,645,627	62,061,705
Restricted assets:		
Gas bond fund	3,332,601	3,634,403
Other funds	257	4,152
Total restricted assets	3,332,858	3,638,555
Gas plant in service	427,853,251	411,396,942
Less accumulated depreciation	(154,640,730)	(143,148,925)
	273,212,521	268,248,017
Retirement in progress	483,050	328,740
Construction in progress	35,026,235	23,512,964
Net plant in service	308,721,806	292,089,721
Other assets:		
Net pension asset	3,250,634	-
Long-term contingency fund investments	2,286,094	4,478,957
Under recovered purchased gas costs	1,513,434	1,339,422
Other	1,657,551	1,808,314
Total other assets	8,707,713	7,626,693
Total assets	377,408,004	365,416,674
Deferred outflows of resources:		
Pension outflow	1,380,924	2,932,948
OPEB outflow	710,381	423,841
Unamortized bond refunding costs	968,434	887,036
Total deferred outflows of resources	3,059,739	4,243,825
Total assets and deferred outflows of resources	$ 380,467,743	$ 369,660,499

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Gas Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Liabilities, Deferred Inflows, and Net Position		
Current liabilities:		
Current portion of revenue bonds	$ 6,745,000	$ 6,510,000
Sales tax collections payable	92,249	97,619
Accounts payable	4,042,961	3,369,918
Accrued expenses	1,384,492	1,335,042
Customer deposits plus accrued interest	4,315,982	4,216,102
Accrued interest on revenue bonds	1,219,723	1,464,303
Total current liabilities	17,800,407	16,992,984
Other liabilities:		
Accrued compensated absences	1,923,437	1,731,060
Customer advances for construction	2,112,184	1,809,840
Net pension liability	3,440	1,169,879
Net OPEB liability	1,290,206	246,116
Other	43,461	71,813
Total other liabilities	5,372,728	5,028,708
Long-term debt:		
Gas revenue bonds	98,765,000	108,430,000
Unamortized premiums/discounts	4,893,568	4,193,696
Total long-term debt	103,658,568	112,623,696
Total liabilities	126,831,703	134,645,388
Deferred inflows of resources:		
Pension inflow	3,496,660	653,375
Total deferred inflows of resources	3,496,660	653,375
Total liabilities and deferred inflows of resources	130,328,363	135,298,763
Net position		
Net investment in capital assets	198,777,130	173,773,732
Restricted for:		
Debt service	2,112,878	2,170,100
Other	257	4,152
Unrestricted	49,249,115	58,413,752
Total net position	250,139,380	234,361,736
Total liabilities, deferred inflows, and net position	$ 380,467,743	$ 369,660,499

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Gas Division

Statements of Revenues, Expenses and Changes in Net Position

Years Ended June 30, 2020 and 2019

	2020	2019
Operating revenues	$ 102,565,268	$ 108,551,679
Operating expenses		
Purchased gas	43,117,323	49,664,494
Distribution	10,099,893	9,757,364
Customer service	2,468,491	2,887,626
Administrative and general	7,556,812	6,804,856
Provision for depreciation	12,910,308	12,877,969
Taxes and tax equivalents	7,629,000	7,863,381
Total operating expenses	83,781,827	89,855,690
Operating income	18,783,441	18,695,989
Non-operating revenues (expenses)		
Contributions in aid of construction	610,598	484,617
Interest income	834,141	1,167,245
Interest expense	(4,177,200)	(4,524,560)
Amortization of debt costs	164,557	157,636
Write-down of plant for costs recovered through contributio	(610,598)	(484,617)
Other	172,705	131,589
Total non-operating revenues (expenses)	(3,005,797)	(3,068,090)
Change in net position before capital contributions	15,777,644	15,627,899
Capital contributions	-	29,791
Change in net position	15,777,644	15,657,690
Net position, beginning of year	234,361,736	218,704,046
Net position, end of year	$ 250,139,380	$ 234,361,736

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Gas Division
Statements of Cash Flows
June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash receipts from customers	$ 101,938,139	$ 108,762,332
Cash receipts from other operations	711,726	1,201,572
Cash payments to suppliers of goods or services	(51,036,805)	(63,240,984)
Cash payments to employees for services	(9,438,485)	(8,617,381)
Payment in lieu of taxes	(6,828,101)	(7,150,052)
Net cash provided by operating activities	35,346,474	30,955,487
Cash flows from capital and related financing activities:		
Net proceeds from bond issuance	-	7,899,292
Principal paid on revenue bonds	(8,510,000)	(6,350,000)
Interest paid on revenue bonds	(4,421,780)	(4,509,512)
Acquisition and construction of gas plant	(30,667,633)	(27,862,864)
Changes in gas bond fund, restricted	301,802	(138,381)
Customer advances for construction	324,185	210,925
Proceeds received on disposal of plant	140	1,797
Cash received from developers and individuals for capital purposes	610,598	484,617
Net cash used in capital and related financing activities	(42,362,688)	(30,264,126)
Cash flows from investing activities:		
Purchase of investment securities	(15,814,376)	(6,627,561)
Maturities of investment securities	14,811,150	4,632,545
Interest received	880,433	1,141,072
Other property and investments	105,858	(85,524)
Net cash used in provided by investing activities	(16,935)	(939,468)
Net decrease in cash and cash equivalents	(7,033,149)	(248,107)
Cash and cash equivalents, beginning of year	31,187,947	31,436,054
Cash and cash equivalents, end of year	$ 24,154,798	$ 31,187,947
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 18,783,441	$ 18,695,989
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	13,402,969	13,324,058
Changes in operating assets and liabilities:		
Accounts receivable	(151,930)	719,632
Inventories	1,182,309	645,347
Prepaid expenses	959,107	(215,398)
Other assets	(372,224)	427,234
Sales tax collections payable	(5,370)	5,746
Accounts payable and accrued expenses	1,650,656	(124,925)
Underrecovered gas costs	(174,012)	(2,806,145)
Customer deposits plus accrued interest	99,880	234,155
Other liabilities	(28,352)	49,794
Net cash provided by operating activities	$ 35,346,474	$ 30,955,487
Noncash capital activities:		
Acquisition of plant assets through developer contributions	$ -	$ 29,791

The accompanying notes are an integral part of these financial statements.

1. Description of Business

Knoxville Utilities Board (KUB), comprised of Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. The Gas Division (Division) provides services to certain customers in Knox County and portions of Anderson and Loudon counties. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Gas Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

2. Significant Accounting Policies

Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments,* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that, through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

Recently Adopted New Accounting Pronouncements

In May 2020, the GASB issued GASB Statement No. 95 (Statement No. 95), *Postponement of the Effective Dates of Certain Authoritative Guidance.* The objective of this Statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. That objective is accomplished by postponing the effective dates of certain provisions in Statements and Implementation Guides that first became effective or are scheduled to become effective for fiscal years beginning after June 15, 2018. The requirements of this Statement are effective immediately.

Gas Plant

Gas plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of gas plant in service is based on the estimated useful lives of the assets, which range from three to thirty-three years, and is computed using the straight-line method. Pursuant to FERC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $492,661 in fiscal year 2020 and $446,089 in fiscal year 2019. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Gas Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $126,228 in fiscal year 2020 and $102,786 in fiscal year 2019.

Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets, net position-restricted, and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

OPEB Plan

KUB's employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the Rule of 80 (age plus years of service) with a minimum of 20 years of service and were enrolled in medical coverage on their last day, are eligible for post-employment health care. KUB's OPEB Trust was established by KUB's Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. KUB's policy is to fully fund the annual actuarially determined contributions, which are determined by actuarial valuation. As required by GASB Statement No. 75, KUB measures net OPEB liability as total OPEB liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a June 30, 2020 and 2019 measurement date, respectively. The net OPEB liability is $7,589,447 (Division's share $1,290,206) as of June 30, 2020 and $1,447,742 (Division's share $246,116) as of June 30, 2019.

Pension Plan and Qualified Excess Benefit Arrangement

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The net pension asset is $19,121,375 (Division's share $3,250,634) as of June 30, 2020, and the net pension liability was $6,649,756 (Division's share $1,130,459) as of June 30, 2019.

KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan administered by KUB (Note 11). As required by GASB Statement No. 73, KUB measures the total pension liability of the QEBA. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The total pension liability of the QEBA is $20,236 (Division's share $3,440) as of June 30, 2020 and $231,883 (Division's share $39,420) as of June 30, 2019.

Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and OPEB plan investments, differences between expected and actual experience, and changes in assumptions in accordance with Statements No. 68, 73, and 75.

Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long-Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Compensated Absences

KUB accrues a liability for earned but unpaid paid time off (PTO) days.

Subsequent Events

KUB has evaluated events and transactions through October 29, 2020, the date these financial statements were issued, for items that should potentially be recognized or disclosed.

Purchased Gas Adjustment

In November 1990, the Board implemented a deferred Purchased Gas (Cost) Adjustment (PGA) mechanism, which allows KUB to flow changes in purchased gas costs through to its customers. These changes in gas costs are reflected as adjustments to the base gas rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the “self-regulated” provisions of GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

The PGA is intended to ensure that KUB recovers the total cost of natural gas purchased, transported and/or reserved for delivery to its sales and transportation customers on an equitable basis. The PGA is also intended to ensure that no excess or deficient cost recovery from KUB’s customers occurs.

Under the PGA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Gas Cost accounts. These accounts are rolled into the PGA rate adjustment on June 30 of each year thereby ensuring that any over/(under) recovered amounts are passed on to KUB’s gas system customers. The amount of over/(under) recovered cost was ($1,513,434) at June 30, 2020, and ($1,339,422) at June 30, 2019.

Recently Issued Accounting Pronouncements

In January 2017, the GASB issued GASB Statement No. 84 (Statement No. 84), *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. Statement No. 84 is effective for fiscal years beginning after December 15, 2019.

In June 2017, the GASB issued GASB Statement No. 87 (Statement No. 87), *Leases*. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset. Statement No. 87 is effective for fiscal years beginning after June 15, 2021.

In June 2018, the GASB issued GASB Statement No. 89 (Statement No. 89), *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period, and to simplify accounting for interest cost incurred before the end of a construction period. Statement No. 89 is effective for fiscal years beginning after December 15, 2020.

In August 2018, the GASB issued GASB Statement No. 90 (Statement No. 90), *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61.* The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. Statement No. 90 is effective for fiscal years beginning after December 15, 2019.

In May 2019, the GASB issued GASB Statement No. 91 (Statement No. 91), *Conduit Debt Obligations.* The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. Statement No. 91 is effective for fiscal years beginning after December 15, 2021.

In January 2020, the GASB issued GASB Statement No. 92 (Statement No. 92), *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. Certain provision of Statement No. 92 were effective immediately. Paragraphs 6, 7, 8, 9, and 12 are effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 93 (Statement No. 93), *Replacement of Interbank Offered Rates.* This Statement establishes accounting and financial reporting requirements related to the replacement of IBORs in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. Statement No. 93 is effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 94 (Statement No. 94), *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by improving the comparability of financial statements among governments that enter in PPPs and APAs. Statement No. 94 is effective for fiscal years beginning after June 15, 2022.

In May 2020, the GASB issued GASB Statement No. 96 (Statement No. 96), *Subscription-Based Information Technology Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by (a) establishing uniform accounting and financial reporting requirements for SBITAs; (b) improving the comparability of financial statements among governments that have entered into SBITAs; and (c) enhancing the understandability, reliability, relevance, and consistency of information about SBITAs. Statement No. 96 is effective for fiscal years beginning after June 15, 2022.

In June 2020, the GASB issued GASB Statement No. 97 (Statement No. 97), *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* The objectives of this Statement are to (a) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (b) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (c) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal

Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. Statement No. 97 is effective for fiscal years beginning after June 15, 2021.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures—an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB’s investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

Interest Rate Risk. KUB’s primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

Credit Risk. KUB’s investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital.

Custodial Credit Risk. KUB’s investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by state law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB’s investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB’s investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

	2020	2019
Current assets		
Cash and cash equivalents	$ 24,154,798	$ 31,187,947
Short-term contingency fund investments	18,033,524	14,806,601
Other assets		
Long-term contingency fund investments	2,230,654	4,388,736
Restricted assets		
Gas bond fund	3,332,601	3,634,403
Other funds	257	4,152
	$ 47,751,834	$ 54,021,839

The above amounts do not include accrued interest of $57,570 in fiscal year 2020 and $90,221 in fiscal year 2019. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2020:

	Deposit and Investment Maturities (in Years)		
	Fair Value	Less Than 1	1-5
Supersweep NOW and Other Deposits	$ 25,480,195	$ 25,480,195	$ -
State Treasurer's Investment Pool	11,857,806	11,857,806	-
Agency Bonds	11,738,873	9,508,219	2,230,654
	$ 49,076,874	$ 46,846,220	$ 2,230,654

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase of greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2020:

- U.S. Agency bonds of $2,230,654, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

4. Accounts Receivable

Accounts receivable consists of the following:

		2020		2019
Wholesale and retail customers				
Billed services	$	4,305,138	$	4,178,373
Unbilled services		1,495,765		1,490,875
Other		319,586		304,557
Allowance for uncollectible accounts		(30,424)		(35,670)
	$	6,090,065	$	5,938,135

5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

		2020		2019
Trade accounts	$	4,042,961	$	3,369,918
Salaries and wages		681,052		541,591
Self-insurance liabilities		292,505		324,957
Other current liabilities		410,935		468,494
	$	5,427,453	$	4,704,960

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6. Long-Term Obligations

Long-term debt consists of the following:

	Balance June 30, 2019	Additions	Payments	Defeased	Balance June 30, 2020	Amounts Due Within One Year
P-2010 - 3.3 - 6.2%	$ 10,295,000	$ -	$ 620,000	$ 9,675,000	$ -	$ -
Q-2012 - 2.0 - 4.0%	16,265,000	-	2,260,000	-	14,005,000	2,350,000
R-2012 - 2.0 - 4.0%	8,150,000	-	450,000	-	7,700,000	475,000
S-2013 - 2.0 - 4.0%	9,650,000	-	645,000	-	9,005,000	695,000
T-2013 - 2.0 - 4.6%	22,900,000	-	500,000	-	22,400,000	500,000
U-2015 - 2.0 - 5.0%	10,305,000	-	680,000	-	9,625,000	710,000
V-2016 - 2.125 - 5.0%	11,300,000	-	250,000	-	11,050,000	250,000
W-2017 - 5.0%	6,720,000	-	705,000	-	6,015,000	735,000
X-2017 - 2.0 - 5.0%	11,565,000	-	245,000	-	11,320,000	260,000
Y-2018 - 3.0 - 5.0%	7,790,000	-	155,000	-	7,635,000	160,000
Z-2020 - 4.0 - 5.0%	-	6,755,000	-	-	6,755,000	610,000
Total bonds	$ 114,940,000	$ 6,755,000	$ 6,510,000	$ 9,675,000	$ 105,510,000	$ 6,745,000
Unamortized Premium	4,193,696	1,164,700	397,369	67,459	4,893,568	-
Total long term debt	$ 119,133,696	$ 7,919,700	$ 6,907,369	$ 9,742,459	$ 110,403,568	$ 6,745,000

	Balance June 30, 2018	Additions	Payments	Defeased	Balance June 30, 2019	Amounts Due Within One Year
P-2010 - 3.3 - 6.2%	$ 10,890,000	$ -	$ 595,000	$ -	$ 10,295,000	$ 620,000
Q-2012 - 2.0 - 4.0%	18,455,000	-	2,190,000	-	16,265,000	2,260,000
R-2012 - 2.0 - 4.0%	8,575,000	-	425,000	-	8,150,000	450,000
S-2013 - 2.0 - 4.0%	10,265,000	-	615,000	-	9,650,000	645,000
T-2013 - 2.0 - 4.6%	23,400,000	-	500,000	-	22,900,000	500,000
U-2015 - 2.0 - 5.0%	10,965,000	-	660,000	-	10,305,000	680,000
V-2016 - 2.125 - 5.0%	11,550,000	-	250,000	-	11,300,000	250,000
W-2017 - 5.0%	7,390,000	-	670,000	-	6,720,000	705,000
X-2017 - 2.0 - 5.0%	11,800,000	-	235,000	-	11,565,000	245,000
Y-2018 - 3.0 - 5.0%	-	8,000,000	210,000	-	7,790,000	155,000
Total bonds	$ 113,290,000	$ 8,000,000	$ 6,350,000	$ -	$ 114,940,000	$ 6,510,000
Unamortized Premium	4,510,823	70,169	387,296	-	4,193,696	-
Total long term debt	$ 117,800,823	$ 8,070,169	$ 6,737,296	$ -	$ 119,133,696	$ 6,510,000

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Debt service over remaining term of the debt is as follows:

Fiscal Year	Principal	Total Interest	Grand Total
2021	$ 6,745,000	$ 3,802,180	$ 10,547,180
2022	6,930,000	3,582,735	10,512,735
2023	7,230,000	3,295,336	10,525,336
2024	7,495,000	3,016,873	10,511,873
2025	6,875,000	2,729,173	9,604,173
2026 - 2030	34,295,000	9,778,097	44,073,097
2031 - 2035	19,670,000	4,613,361	24,283,361
2036 - 2040	6,130,000	2,200,962	8,330,962
2041 - 2045	7,150,000	1,194,759	8,344,759
2046 - 2048	2,990,000	164,425	3,154,425
Total	$ 105,510,000	$ 34,377,901	$ 139,887,901

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The requirements for the bonds are being met through monthly deposits to the Gas Bond Fund, as required by the bond covenants. As of June 30, 2020, these bond covenant requirements had been satisfied.

During fiscal year 2019, KUB's Gas Division issued Series Y 2018 bonds to fund gas system capital improvements.

During fiscal year 2020, KUB's Gas Division issued Series Z 2020 bonds to retire a portion of outstanding Series P 2010 bonds as follows. On May 22, 2020, $6.8 million in revenue refunding bonds with an average interest rate of 4.7 percent were issued to currently refund $9.7 million of outstanding bonds with an average interest rate of 6.1 percent. The net proceeds of $9.8 million (after payment of $0.1 million in issuance costs plus premium of $1.1 million and an additional issuer equity contribution of $2 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 12 years by $1.8 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $1.3 million.

Other liabilities consist of the following:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Accrued compensated absences	$ 1,731,060	$ 2,727,640	(2,535,263)	$ 1,923,437
Customer advances for construction	1,809,840	1,193,128	(890,784)	2,112,184
Other	71,813	70,734	(99,086)	43,461
	$ 3,612,713	$ 3,991,502	$ (3,525,133)	$ 4,079,082

	Balance June 30, 2018	**Increase**	**Decrease**	**Balance June 30, 2019**
Accrued compensated absences	$ 1,577,505	$ 2,830,882	$ (2,677,327)	$ 1,731,060
Customer advances for construction	1,686,824	848,614	(725,598)	1,809,840
Other	22,019	143,433	(93,639)	71,813
	$ 3,286,348	$ 3,822,929	$ (3,496,564)	$ 3,612,713

7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

2021	$ 67,032
2022	17,919
2023	2,650
2024	2,331
2025	2,331
Total operating minimum lease payments	$ 92,263

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8. Capital Assets

Capital asset activity was as follows:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Production Plant	$ 14,640	$ -	$ -	$ 14,640
Distribution Plant				
Mains	274,494,508	8,221,680	(1,318,466)	281,397,722
Services and Meters/Regulators	102,041,728	7,233,015	(803,351)	108,471,392
Other Accounts	1,616,728	25,239	(5,000)	1,636,967
Total Distribution Plant	$ 378,152,964	$ 15,479,934	$ (2,126,817)	$ 391,506,081
Total General Plant	33,229,338	3,304,534	(201,342)	36,332,530
Total Plant Assets	$ 411,396,942	$ 18,784,468	$ (2,328,159)	$ 427,853,251
Less Accumulated Depreciation	(143,148,925)	(13,959,978)	2,468,173	(154,640,730)
Net Plant Assets	$ 268,248,017	$ 4,824,490	$ 140,014	$ 273,212,521
Work In Progress	23,841,704	29,756,261	(18,088,680)	35,509,285
Total Net Plant	$ 292,089,721	$ 34,580,751	$ (17,948,666)	$ 308,721,806

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
Production Plant	$ 14,640	$ -	$ -	$ 14,640
Distribution Plant				
Mains	269,916,632	7,029,840	(2,451,964)	274,494,508
Services and Meters/Regulators	93,642,488	10,285,447	(1,886,207)	102,041,728
Other Accounts	1,474,036	148,692	(6,000)	1,616,728
Total Distribution Plant	$ 365,033,156	$ 17,463,979	$ (4,344,171)	$ 378,152,964
Total General Plant	32,490,309	1,100,613	(361,584)	33,229,338
Total Plant Assets	$ 397,538,105	$ 18,564,592	$ (4,705,755)	$ 411,396,942
Less Accumulated Depreciation	(134,622,473)	(13,332,813)	4,806,361	(143,148,925)
Net Plant Assets	$ 262,915,632	$ 5,231,779	$ 100,606	$ 268,248,017
Work In Progress	15,179,815	27,287,408	(18,625,519)	23,841,704
Total Net Plant	$ 278,095,447	$ 32,519,187	$ (18,524,913)	$ 292,089,721

9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2020 and June 30, 2019, the amount of these liabilities was $292,505 and $324,957, respectively, resulting from the following changes:

	2020	2019
Balance, beginning of year	$ 324,957	$ 309,857
Current year claims and changes in estimates	2,536,475	2,920,440
Claims payments	(2,568,927)	(2,905,340)
Balance, end of year	$ 292,505	$ 324,957

10. Pension Plan

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	2018
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $439,590 and $536,632 are attributable to the Gas Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

Net Pension Liability

The below summarizes the disclosures of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the net pension asset at June 30, 2020 is $3,250,634, and the net pension liability at June 30, 2019 is $1,130,459.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

	2019	2018
Total pension liability	$ 226,818,557	$ 212,157,951
Plan fiduciary net position	(245,939,932)	(205,508,195)
Plan's net pension liability (asset)	$ (19,121,375)	$ 6,649,756
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%

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Changes in Net Pension Liability are as follows:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at December 31, 2018	$ 212,157,951	$ 205,508,195	$ 6,649,756
Changes for the year:			
Service cost	6,142,213	-	6,142,213
Interest	16,030,626	-	16,030,626
Changes of Benefits	163,199	-	163,199
Differences between Expected and Actual Experience	(1,054,117)	-	(1,054,117)
Changes of Assumptions	8,473,160	-	8,473,160
Contributions - employer	-	2,871,241	(2,871,241)
Contributions - rollovers	-	3,167,836	(3,167,836)
Contributions - member	-	2,989	(2,989)
Net investment income	-	49,951,894	(49,951,894)
Benefit payments	(15,094,475)	(15,094,475)	-
Administrative expense	-	(467,748)	467,748
Net changes	14,660,606	40,431,737	(25,771,131)
Balances at December 31, 2019	$ 226,818,557	$ 245,939,932	$ (19,121,375)

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	January 1, 2019, rolled forward to December 31, 2019; January 1, 2018, rolled forward to December 31, 2018
Discount rate	7.25% as of December 31, 2019; 7.50% as of December 31, 2018
Salary increase	From 2.50% to 5.65%, based on years of service as of December 31, 2019; from 2.80% to 5.15%, based on years of service as of December 31, 2018
Mortality	115% and 110% of the PubG-2010 table, for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019; 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on an actuarial experience study covering the period January 1, 2014 through December 31, 2018. The discount rate was subsequently reduced from 7.5 percent to 7.25 percent as of the December 31, 2019 measurement date. The Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), effective January 1, 2020.

The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2019 and 2018 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

	Long Term Expected Real Rate of Return	
Asset Class	**2019**	**2018**
Domestic equity	5.5%	5.8%
Non-U.S. equity	6.4%	6.9%
Real estate equity	5.9%	6.0%
Debt securities	1.5%	1.7%
Cash and deposits	0.6%	0.7%

Discount rate
The discount rate used to measure the total pension liability was 7.25 percent as of December 31, 2019, and 7.5 percent as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate
The following presents the net pension liability of the Plan as of December 31, 2019, calculated using the discount rate of 7.25 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.25 percent) or one percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Plan's net pension liability (surplus)	$ 946,692	$ (19,121,375)	$ (36,452,396)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of $2,673,376 (Division's share $454,474).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5.00 years. During the measurement year, there was an experience gain of $1,054,117, with $210,822 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $843,295 (Division's share $143,360). Unrecognized experience gains from prior periods were $2,408,388, of which $1,163,381 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,245,007 (Division's share $211,651).

During the measurement year, there was an assumption change loss of $8,473,160, with $1,694,632 of that recognized in the current year and each of the next four years, resulting in a deferred outflow of $6,778,528 (Division's share $1,152,350). Unrecognized assumption change decreases from prior periods were $1,387,733, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $729,629 (Division's share $124,037).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $34,889,331, of which $6,977,866 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment losses from prior periods were $15,614,774, of which $5,418,519 was recognized as an increase in pension expense in the current year. The combination of unrecognized investment gains this year along with the net unrecognized investment losses from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2019 of $17,715,210 (Division's share $3,011,586). The following table summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $1,292,915 (Division's share $219,795) at June 30, 2020 for employer contributions made between December 31, 2019 and June 30, 2020.

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	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,088,302
Changes in assumptions	6,778,528	729,629
Net difference between projected and actual earnings on pension plan investments	-	17,715,210
Contributions subsequent to measurement date	1,292,915	-
Total	$ 8,071,443	$ 20,533,141
Division's share	$ 1,372,145	$ 3,490,634

$1,292,915 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ (4,595,539)
2022	(3,722,647)
2023	57,633
2024	(5,494,060)
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $4,128,608 (Division’s share $701,863).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5.00 years. During the measurement year, there was an experience gain of $605,649, with $121,129 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $484,520 (Division’s share $82,368). Unrecognized experience gains from prior periods were $2,966,120, of which $1,042,251 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,923,868 (Division’s share $327,058).

During the measurement year, there were no benefit changes or assumption changes. Unrecognized assumption change decreases from prior periods were $2,045,837, of which $658,103 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,387,733 (Division’s share $235,915).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $28,364,098, of which $5,672,818 was recognized in the current year and an identical amount will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $8,925,385, of which $1,848,879 was recognized as a decrease in pension expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2018 of $15,614,774 (Division’s share $2,654,512).

The following table summarizes the current balances of deferred outflows and deferred inflows of resources. In addition, KUB recorded a deferred outflow of resources of $1,578,332 (Division's share $268,316) at June 30, 2019 for employer contributions made between December 31, 2018 and June 30, 2019.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,408,388
Changes in assumptions	-	1,387,733
Net difference between projected and actual earnings on pension plan investments	15,614,774	-
Contributions subsequent to measurement date	1,578,332	-
Total	$ 17,193,106	$ 3,796,121
Division's share	$ 2,922,828	$ 645,341

11. Qualified Excess Benefit Arrangement

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $3,440 at June 30, 2020, and $39,420 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease) Total Pension Liability
Balances at December 31, 2018	$ 231,883
Changes for the year:	
Service cost	-
Interest	9,181
Changes of Benefits	(218,272)
Differences between Expected and Actual Experience	34
Changes of Assumptions	13,342
Benefit payments	(15,932)
Net changes	(211,647)
Balances at December 31, 2019	$ 20,236

Actuarial Assumptions
The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018

Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate
The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate
The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $33,847). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $5). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $3,685) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $930) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $37,106). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $1,815). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $2,341) and a deferred outflow of $29,385 (Division's share $4,995) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $1,034).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445
Division's share	$ 8,779	$ 6,026

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $1,034). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $5,022). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $4,913). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,396).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $3,121). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $7,493). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $1,231).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources		Deferred Inflows of Resources	
Differences between expected and actual experience	$	8,210	$	28,900
Changes in assumptions		44,077		18,360
Contributions subsequent to measurement date		7,242		-
Total	$	59,529	$	47,260
Division's share	$	10,120	$	8,034

12. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the “401(k) Plan”) is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401 (k) Plan’s assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of 3 percent to 6 percent, depending on years of service, whether they contribute or not.

KUB funded 401(k) matching contributions and nonelective contributions of $2,469,273 (Division’s share $419,776) and $2,410,201 (Division’s share $409,734), respectively, for the years ended June 30, 2020 and 2019.

13. Other Post-Employment Benefits (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB’s President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB’s Board of Commissioners, upon recommendation by KUB’s President and CEO. All other amendments to the Trust may be approved by KUB’s President and CEO upon 60 days notification to the Board’s Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division's share $52,925). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

Net OPEB Liability

The below summarizes the disclosures of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"), which requires measurement of the net OPEB liability as total OPEB liability less the amount of the Trust's fiduciary net position. The amounts reported as of June 30 are based on the reporting date for the KUB Other Post-Employment Benefits Plan which is June 30. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and 2019 and the Total OPEB Liability as of the valuation date, January 1, 2019 updated to June 30, 2020, and January 1, 2018 updated to June 30, 2019, respectively. The Division's share of the total net OPEB liability was $1,290,206 at June 30, 2020 and $246,116 at June 30, 2019. There was one significant event between the valuation date and the measurement date for June 30, 2020 where the discount rate was reduced from 7.5% to 7.25%.

The components of the net OPEB liability of the Trust are as follows as of June 30:

	2020	**2019**
Total OPEB liability	$ 54,544,240	$ 50,197,938
Plan fiduciary net position	46,954,793	48,750,196
Net OPEB liability	$ 7,589,447	$ 1,447,742
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%

Changes in Net OPEB Liability are as follows:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB Liability (Asset) (a) - (b)
Balances at June 30, 2019	$ 50,197,938	$ 48,750,196	$ 1,447,742
Changes for the year:			
Service cost	256,270	-	256,270
Interest	3,672,291	-	3,672,291
Changes of Benefits	(202,408)	-	(202,408)
Differences between Expected and Actual Experience	43,902	-	43,902
Changes of Assumptions	3,604,843	-	3,604,843
Contributions - employer	-	311,324	(311,324)
Contributions - member	-	-	-
Net investment income	-	975,155	(975,155)
Benefit payments	(3,028,596)	(3,028,596)	-
Administrative expense	-	(53,286)	53,286
Net changes	4,346,302	(1,795,403)	6,141,705
Balances at June 30, 2020	$ 54,544,240	$ 46,954,793	$ 7,589,447

Actuarial assumptions
The total OPEB liability was determined by actuarial valuations, using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation dates:	January 1, 2019, updated to June 30, 2020; January 1, 2018, updated to June 30, 2019
Discount rate:	7.25% as of January 1, 2019; 7.5% as of January 1, 2018
Healthcare cost trend rates:	Pre-Medicare: 7.83% grading down to 4.50% over 19 years as of January 1, 2019; 8.00% grading down to 4.50% over 20 years as of January 1, 2018 Medicare: 6.88% grading down to 4.50% over 19 years as of January 1, 2019; 7.00% grading down to 4.50% over 20 years as of January 1, 2018 Administrative expenses: 3.0% per year

Salary increases:	From 2.50% to 5.65%, based on years of service as of January 1, 2019; From 2.80% to 5.15%, based on years of service as of January 1, 2018
Mortality:	115% and 110% of the Public Sector Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table (PubG-2010) for ages prior to the start of the Health Annuitant Mortality Table, both projected using scale MP2018 fully generational as of January 1, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of January 1, 2018
Inflation:	2.5% as of January 1, 2019; 2.8% as of January 1, 2018

The actuarial assumptions used in the January 1, 2019 and January 1, 2018 valuations were based on the results of actuarial experience studies for the periods January 1, 2014 through December 31, 2018 and January 1, 2009 through December 31, 2013, respectively. The discount rate was subsequently reduced to 7.25 percent from 7.50 percent as of January 1, 2020; therefore, the new rate was used to calculate the OPEB liability as of June 30, 2020.

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Trust investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return may be lower in periods of current strong performance due to future valuations that mean revert to the long-term average. Best estimates of arithmetic real rates of return for each major asset class included in the Trust's target asset allocation (see the discussion of the Trust's Investment Policy) are summarized in the chart below.

	Long Term Expected Real Rate of Return	
Asset Class	**2020**	**2019**
Domestic equity	5.4%	5.5%
International equity	6.4%	6.4%
Real estate equity	5.8%	5.9%
Debt securities	0.2%	1.5%
Cash and deposits	(0.2%)	0.6%

Discount rate

The discount rate used to measure the total OPEB liability was 7.25 percent and 7.5 percent as of June 30, 2020 and 2019, respectively. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on Trust investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the net OPEB liability to changes in the discount rate.
The following presents the net OPEB liability of the Trust as of June 30, 2020, calculated using the discount rate of 7.25 percent, as well as what the Trust's net OPEB liability would be if it were calculated using a discount rate that is 1 percent lower (6.25 percent) or 1 percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Net OPEB liability	$ 12,643,555	$ 7,589,447	$ 3,282,461

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.
The following presents the net OPEB liability of the Trust as of June 30, 2020, as well as what the Trust's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1 percent lower or 1 percent higher than the current rate:

	1% Decrease	**Baseline Trends**	**1% Increase**
Net OPEB liability	$ 2,482,856	$ 7,589,447	$ 13,485,387

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2020, KUB recognized OPEB expense of $4,767,499 (Division's share $810,475).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $43,902, with $21,951 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $21,951 (Division's share $3,732). Unrecognized experience losses from prior periods were $499,549, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were benefit changes that decreased the expense by $202,408. There was an increase in the Total OPEB Liability due to assumption changes of $3,604,843, with $1,802,422 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,802,421 (Division's share $306,412). Unrecognized assumption changes from prior periods were $1,615,800, of which the entire amount is recognized as an increase in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $2,579,092, of which $515,818 was recognized in the current year and will be recognized in each of the next four years, resulting in a deferred outflow of resources as of June 30, 2020 of $2,063,274 (Division's share $350,757). Net unrecognized investment losses from prior periods were $377,831, of which $86,767 was recognized as an increase in OPEB expense in the current year and resulting in a net deferred outflow of $291,064 (Division's share $49,480). The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 21,951	$ -
Changes in assumptions	1,802,421	-
Net difference between projected and actual earnings on OPEB plan investments	2,354,338	-
Total	$ 4,178,710	$ -
Division's share	$ 710,381	$ -

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:	
2021	$ 2,426,957
2022	602,586
2023	633,347
2024	515,820
2025	-
Thereafter	-

For the year ended June 30, 2019, KUB recognized OPEB expense of $3,046,377 (Division’s share $517,884).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $999,098, with $499,549 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $499,549 (Division’s share $84,924). Unrecognized experience losses from prior periods were $662,384, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were no benefit changes. There was an increase in the Total OPEB Liability due to assumption changes of $3,231,601, with $1,615,801 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,615,800 (Division’s share $274,686). Unrecognized assumption changes from prior periods were ($198,590), of which the entire amount is recognized as a decrease in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $587,645, of which $117,529 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $123,047, of which $30,762 was recognized as a decrease in OPEB expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on OPEB plan investments as of June 30, 2019 of $377,831 (Division’s share $64,231). The following table summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 499,549	$ -
Changes in assumptions	1,615,800	-
Net difference between projected and actual earnings on OPEB plan investments	377,831	-
Total	$ 2,493,180	$ -
Division's share	$ 423,841	$ -

14. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2020 and 2019 are summarized as follows:

	2020	**2019**
City of Knoxville		
Amounts billed by the Division for utilities and related services	$ 724,773	$ 735,158
Payments by the Division in lieu of property tax	3,818,100	3,875,482
Payments by the Division for services provided	27,439	568,679
Other divisions of KUB		
Amounts billed to other divisions for utilities and related services provided	300,025	235,615
Interdivisional rental expense	1,126,977	469,520
Amounts billed to the Division by other divisions for utilities services provided	330,854	306,382

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were as follows:

	2020	**2019**
Accounts receivable	$ 9,726	$ 6,335

15. Natural Gas Supply Contract Commitments

For fiscal year 2020, the Gas Division hedged 36 percent of its total gas purchases via gas supply contracts. As of June 30, 2020, the Gas Division had hedged the price on approximately 4 percent of its anticipated gas purchases for fiscal year 2021.

The Gas Division contracts separately for the purchase, transportation, and storage of natural gas. Purchase commitments for the next five years are as follows:

Firm obligations related to purchased gas - demand

	2021	**2022**	**2023**	**2024**	**2025**
Transportation					
Tennessee Gas Pipeline	$ 3,343,892	$ 3,381,612	$ 3,381,612	$ 3,381,612	$ 3,381,612
East Tennessee Natural Gas	9,664,040	9,664,040	9,664,040	9,664,040	9,664,040
Texas Eastern	328,500	328,500	328,500	328,500	328,500
Storage					
Tennessee Gas Pipeline	1,600,272	1,600,272	1,600,272	1,600,272	1,600,272
East Tennessee Natural Gas	727,385	727,385	727,385	727,385	727,385
Saltville Natural Gas	2,000,160	2,000,160	1,655,130	620,040	465,030
Bobcat	156,000	162,000	54,000	-	-
Demand Total	$ 17,820,249	$ 17,863,969	$ 17,410,939	$ 16,321,849	$ 16,166,839

Firm obligations related to purchased gas - commodity

	2021	**2022**	**2023**	**2024**	**2025**
Baseload					
ConocoPhillips	$ 279,000	$ -	$ -	$ -	$ -
Shell Energy	460,920	-	-	-	-
CNX Gas	2,367,573	-	-	-	-
NJR Energy Services	1,599,632	-	-	-	-
Commodity Total	$ 4,707,125	$ -	$ -	$ -	$ -

The total commodity values presented here are based upon firm supply obligations with each individual natural gas supplier. The firm obligations value for ConocoPhillips and Shell Energy are based upon firm supply obligations and locked prices with those suppliers. The firm obligations value for CNX Gas and NJR Energy Services are based upon firm supply obligations and the applicable NYMEX strip prices on June 30, 2020.

16. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

17. Risks and Uncertainties

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation as federal, state, and local governments react to the public health crisis, creating significant uncertainties in the economy. This situation is rapidly changing, and additional impacts may arise. While the disruption is currently expected to be temporary, there is uncertainty around its duration. The ultimate future impact, if any, of the pandemic on results of operations, financial position, liquidity or capital resources cannot be reasonably estimated at this time.

Knoxville Utilities Board Gas Division
Required Supplemental Information - Schedule of Changes in Net Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31					
	2019	2018	2017	2016	2015	2014
Total pension liability						
Service cost	$ 6,142,213	$ 5,095,488	$ 4,607,486	$ 4,226,985	$ 4,157,062	$ 4,092,808
Interest	16,030,626	15,344,193	15,015,282	14,966,559	14,812,784	14,698,657
Changes of benefit terms	163,199	-	-	-	-	-
Differences between expected and actual experience	(1,054,117)	(605,649)	(1,087,161)	(2,233,762)	(1,890,334)	-
Changes of assumptions	8,473,160	-	(357,633)	(2,932,883)	-	-
Benefit payments, including refunds of member contributions	(15,094,475)	(15,274,814)	(14,969,979)	(14,138,511)	(15,350,926)	(15,533,167)
Net change in total pension liability	14,660,606	4,559,218	3,207,995	(111,612)	1,728,586	3,258,298
Total pension liability - beginning	212,157,951	207,598,733	204,390,738	204,502,350	202,773,764	199,515,466
Total pension liability - ending (a)	$ 226,818,557	$ 212,157,951	$ 207,598,733	$ 204,390,738	$ 204,502,350	$ 202,773,764
Plan fiduciary net position						
Contributions - employer	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contributions - participants	3,170,825	2,081,125	1,488,632	555,075	487,546	475,854
Net investment income	49,938,315	(11,748,396)	32,360,219	13,788,263	(95,430)	22,292,369
Other additions	13,579	62,616	82,239	45,848	30,879	29,733
Benefit payments, including refunds of member contributions	(15,030,475)	(15,174,814)	(14,895,979)	(14,044,511)	(15,274,926)	(15,405,167)
Administrative expense	(467,748)	(445,916)	(385,282)	(441,332)	(397,160)	(378,085)
Death benefits	(64,000)	(100,000)	(74,000)	(94,000)	(76,000)	(128,000)
Net change in plan fiduciary net position**	40,431,737	(21,868,910)	22,862,426	5,052,489	(9,333,204)	12,795,245
Plan fiduciary net position - beginning**	205,508,195	227,377,105	204,514,679	199,462,190	208,795,394	196,000,149
Plan fiduciary net position - ending (b)**	$ 245,939,932	$ 205,508,195	$ 227,377,105	$ 204,514,679	$ 199,462,190	$ 208,795,394
Plan's net pension liability - ending (a) - (b)	$ (19,121,375)	$ 6,649,756	$ (19,778,372)	$ (123,941)	$ 5,040,160	$ (6,021,630)
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%	109.53%	100.06%	97.54%	102.97%
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Plan's net pension liability as a percentage of covered payroll	(47.48%)	15.78%	(45.67%)	(0.28%)	11.34%	(13.66%)

Notes to Schedule:

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

Knoxville Utilities Board Gas Division
Required Supplementary Information – Schedule of Employer Pension Contributions
June 30, 2020

	*Year ended December 31					
	2019	**2018**	**2017**	**2016**	**2015**	**2014**
Actuarially determined contribution	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contribution in relation to the actuarially determined contribution	2,871,241	3,456,475	4,286,597	5,243,146	5,991,887	5,908,541
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Contributions as a percentage of covered payroll	7.13%	8.20%	9.90%	11.80%	13.48%	13.41%

Notes to Schedule:

Timing: Actuarially determined contributions for a Plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior Plan years.

Valuation Dates: January 1, 2018 and January 1, 2017

Key methods and assumptions used to determine contribution rates:

Actuarial cost method: Individual entry age

Asset valuation method: 5-year smoothed market

Amortization method: Level dollar, 30-year closed period with 23 years remaining (24 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative.

Discount rate: 7.5%

Salary increases: 2.80% to 5.15%, based on years of service

Mortality: Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA

Inflation: 2.8%

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014. Please refer to prior year's audited financial statements for prior methods and assumptions.

Knoxville Utilities Board Gas Division

Required Supplementary Information – Schedule of Changes in Net OPEB Liability and Related Ratios

June 30, 2020

	*Year ended June 30		
	2020	2019	2018
Total OPEB liability			
Service cost	$ 256,270	$ 270,515	$ 202,603
Interest	3,672,291	3,624,737	3,295,240
Change of benefit terms	(202,408)	-	-
Differences between expected and actual experience	43,902	999,098	1,324,769
Changes of assumptions	3,604,843	3,231,601	(397,180)
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Net change in total OPEB liability	4,346,302	4,593,507	1,126,693
Total OPEB liability - beginning	50,197,938	45,604,431	44,477,738
Total OPEB liability - ending (a)	$ 54,544,240	$ 50,197,938	$ 45,604,431
Plan fiduciary net position			
Contributions - employer	$ 311,324	$ -	$ -
Net investment income	975,155	2,981,928	3,705,473
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Administrative expense	(53,286)	(54,787)	(51,668)
Net change in plan fiduciary net position	(1,795,403)	(605,303)	355,066
Plan fiduciary net position - beginning	48,750,196	49,355,499	49,000,433
Plan fiduciary net position - ending (b)	$ 46,954,793	$ 48,750,196	$ 49,355,499
Net OPEB liability (asset) - ending (a) - (b)	$ 7,589,447	$ 1,447,742	$ (3,751,068)
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%	108.23%
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Net OPEB liability (asset) as a percentage of covered employee payroll	32.48%	5.95%	(15.84%)

Notes to Schedule:

* Information not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.

Knoxville Utilities Board Gas Division
Required Supplementary Information – Schedule of Employer OPEB Contributions
June 30, 2020

	*Year ended June 30 2020	2019	2018
Actuarially determined contribution	$ 311,324	$ -	$ -
Contribution in relation to the annual required contribution	311,324	-	-
Contribution deficiency/(excess)	$ -	$ -	$ -
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Contributions as a percentage of covered employee payroll	1.33%	0.00%	0.00%

Notes to Schedule:

Valuation Date:	January 1, 2018 and January 1, 2017
Timing:	Actuarially determined contribution rates are calculated based on the actuarial valuation completed 18 months before the beginning of the fiscal year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Entry age normal
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 18 years remaining as of January 1, 2018 (19 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative
Discount rate:	7.5%
Healthcare cost trend rate:	Pre-Medicare: 8% grading down to 4.5% over 20 years as of January 1, 2018; 7.83% to 4.5% over 19 years as of January 1, 2017 Medicare: 7% grading down to 4.5% over 20 years as of January 1, 2018; 6.88% to 4.5% over 19 years as of January 1, 2017 Administrative expenses: 3.0% per year
Salary increases:	From 2.8% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%
Investment rate of return:	7.5%
Retirement age:	2% at ages 50-57 at January 1, 2018 and January 1, 2017, respectively, grading up to 100% at age 70

* Schedule of Employer Contribution information is not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.
Please refer to prior year's audited financial statement for prior methods and assumptions.

Knoxville Utilities Board Gas Division
Required Supplementary Information – Qualified Governmental Excess Benefit Arrangement
Schedule of Changes in Total Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31			
	2019	2018	2017	2016
Total pension liability				
Service cost	$ -	$ 941	$ 584	$ -
Interest (includes interest on service cost)	9,181	9,676	7,535	-
Changes of benefit terms	(218,272)	-	-	185,077
Differences between expected and actual experience	34	(36,125)	13,684	-
Changes of assumptions	13,342	(22,950)	73,461	-
Benefit payments, including refunds of member contributions	(15,932)	-	-	-
Net change in total pension liability	(211,647)	(48,458)	95,264	185,077
Total pension liability - beginning	231,883	280,341	185,077	-
Total pension liability - ending	$ 20,236	$ 231,883	$ 280,341	$ 185,077
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747
Total pension liability as a percentage of covered payroll	0.05%	0.55%	0.65%	0.42%

Notes to Schedule:

* There are no assets accumulated in a trust that meet the criteria in paragraph 4 of GASB 73 to pay related benefits.

Knoxville Utilities Board Gas Division
Supplemental Information - Schedule of Federal Awards and State Financial Assistance
June 30, 2020

Federal Grantor/ Pass-Through Grantor	Program Name	CFDA Number	Pass-Through Entity Identifying Number	Expenditures
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00434	$ 105,150
		Total Program 97.036		$ 105,150
		Total Federal Awards		$ 105,150

NOTE 1 - BASIS OF PRESENTATION

The Schedule of Expenditures of Federal Awards and State Financial Assistance includes the federal award related grant activity of Knoxville Utilities Board and is presented on the accrual basis of accounting. The expenditures reported in the Schedule of Expenditures and State Financial Assistance were incurred in fiscal year 2020. In accordance with the requirements of CFDA 97.036, the expenditures have been reported in fiscal year 2020 when the grant was approved by the Federal Emergency Management Association. KUB did not elect to use 10% de minimis indirect cost rate.

Knoxville Utilities Board Gas Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

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	Q-2012		**R-2012**		**S-2013**		**T-2013**		**U-2015**		**V-2016**	
FY	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**
20-21	2,350,000	524,748	475,000	222,781	695,000	277,100	500,000	936,825	710,000	323,387	250,000	335,094
21-22	2,445,000	430,748	475,000	203,781	715,000	249,300	500,000	916,825	740,000	287,887	275,000	322,594
22-23	2,540,000	332,948	500,000	184,781	730,000	227,850	500,000	901,825	795,000	250,888	300,000	308,844
23-24	2,645,000	231,348	525,000	169,781	745,000	205,950	500,000	886,200	805,000	233,000	325,000	293,844
24-25	760,000	125,548	550,000	159,281	790,000	183,600	1,550,000	869,950	845,000	208,850	325,000	280,844
25-26	780,000	102,748	575,000	142,781	800,000	159,900	1,600,000	813,763	880,000	183,500	350,000	267,844
26-27	800,000	79,348	575,000	130,560	840,000	135,900	1,650,000	749,763	895,000	154,900	350,000	253,844
27-28	830,000	54,348	600,000	117,625	875,000	110,700	1,700,000	683,763	985,000	123,573	375,000	243,344
28-29	855,000	27,788	625,000	99,625	905,000	84,450	1,750,000	615,763	975,000	89,100	375,000	232,094
29-30			650,000	84,000	940,000	57,300	1,950,000	543,575	955,000	59,850	375,000	220,844
30-31			675,000	64,500	970,000	29,100	2,000,000	460,700	1,040,000	31,200	400,000	212,875
31-32			725,000	44,250			2,000,000	373,200			400,000	203,875
32-33			750,000	22,500			2,000,000	283,200			425,000	194,375
33-34							2,100,000	193,200			425,000	183,750
34-35							2,100,000	96,600			425,000	173,125
35-36											450,000	162,500
36-37											450,000	150,686
37-38											475,000	138,312
38-39											475,000	125,250
39-40											500,000	112,188
40-41											525,000	98,438
41-42											525,000	84,000
42-43											550,000	68,250
43-44											550,000	51,750
44-45											575,000	35,250
45-46											600,000	18,000
46-47												
47-48												
Total	$ 14,005,000	$ 1,909,572	$ 7,700,000	$ 1,646,246	$ 9,005,000	$ 1,721,150	$ 22,400,000	$ 9,325,152	$ 9,625,000	$ 1,946,135	$ 11,050,000	$ 4,771,814

Knoxville Utilities Board Gas Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

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	W-2017		X-2017		Y-2018		Z-2020		Totals		Grand Total (P + I)
FY	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	
20-21	735,000	300,750	260,000	367,669	160,000	267,531	610,000	246,295	6,745,000	3,802,180	10,547,180
21-22	780,000	264,000	270,000	354,669	170,000	259,531	560,000	293,400	6,930,000	3,582,735	10,512,735
22-23	815,000	225,000	285,000	341,169	180,000	251,031	585,000	271,000	7,230,000	3,295,336	10,525,336
23-24	850,000	184,250	300,000	326,919	185,000	243,831	615,000	241,750	7,495,000	3,016,873	10,511,873
24-25	900,000	141,750	315,000	311,919	195,000	236,431	645,000	211,000	6,875,000	2,729,173	9,604,173
25-26	940,000	96,750	330,000	296,168	200,000	228,631	675,000	178,750	7,130,000	2,470,835	9,600,835
26-27	995,000	49,750	340,000	286,268	210,000	220,631	710,000	145,000	7,365,000	2,205,964	9,570,964
27-28			345,000	279,469	215,000	214,331	745,000	109,500	6,670,000	1,936,653	8,606,653
28-29			355,000	272,138	220,000	207,881	785,000	72,250	6,845,000	1,701,089	8,546,089
29-30			360,000	263,706	230,000	201,281	825,000	33,000	6,285,000	1,463,556	7,748,556
30-31			375,000	252,906	235,000	194,381			5,695,000	1,245,662	6,940,662
31-32			385,000	241,656	240,000	187,331			3,750,000	1,050,312	4,800,312
32-33			395,000	230,106	250,000	180,131			3,820,000	910,312	4,730,312
33-34			410,000	218,256	260,000	172,319			3,195,000	767,525	3,962,525
34-35			420,000	205,956	265,000	163,869			3,210,000	639,550	3,849,550
35-36			435,000	193,356	275,000	155,256			1,160,000	511,112	1,671,112
36-37			445,000	180,306	285,000	146,319			1,180,000	477,311	1,657,311
37-38			460,000	166,956	295,000	136,700			1,230,000	441,968	1,671,968
38-39			475,000	152,582	305,000	126,744			1,255,000	404,576	1,659,576
39-40			490,000	137,738	315,000	116,069			1,305,000	365,995	1,670,995
40-41			505,000	122,425	325,000	105,044			1,355,000	325,907	1,680,907
41-42			520,000	106,644	335,000	93,669			1,380,000	284,313	1,664,313
42-43			535,000	90,394	350,000	81,944			1,435,000	240,588	1,675,588
43-44			550,000	73,675	360,000	69,694			1,460,000	195,119	1,655,119
44-45			570,000	56,488	375,000	57,094			1,520,000	148,832	1,668,832
45-46			585,000	38,675	385,000	43,500			1,570,000	100,175	1,670,175
46-47			605,000	19,662	400,000	29,544			1,005,000	49,206	1,054,206
47-48					415,000	15,044			415,000	15,044	430,044
Total	$ 6,015,000	$ 1,262,250	$ 11,320,000	$ 5,587,875	$ 7,635,000	$ 4,405,762	$ 6,755,000	$ 1,801,945	$ 105,510,000	$ 34,377,901	$ 139,887,901

Knoxville Utilities Board Gas Division
Supplemental Information - Schedule of Changes in Long-term Debt by Individual Issue
June 30, 2020

Description of Indebtedness	Original Amount of Issue	Interest Rate	Date of Issue	Last Maturity Date	Outstanding Balance 7/1/2019	Issued During Period	Paid/Matured During Period	Refunded During Period	Outstanding Balance 6/30/2020
Business-Type Activities									
BONDS PAYABLE									
Payable through Gas Fund									
Revenue Bond, Series P-2010	12,000,000	3.3-6.2	12/08/10	03/01/32	$ 10,295,000	$	$ 620,000	$ 9,675,000	$ -
Revenue Bond Refunding, Series Q-2012	24,920,000	2.0-4.0	04/20/12	03/01/29	16,265,000		2,260,000		14,005,000
Revenue Bond, Series R-2012	10,000,000	2.0-4.0	12/18/12	03/01/33	8,150,000		450,000		7,700,000
Revenue Bond Refunding, Series S-2013	11,580,000	2.0-4.0	03/15/13	03/01/31	9,650,000		645,000		9,005,000
Revenue Bond, Series T-2013	25,000,000	2.0-4.6	10/01/13	03/01/35	22,900,000		500,000		22,400,000
Revenue Bond Refunding, Series U-2015	11,780,000	2.0-5.0	05/01/15	03/01/31	10,305,000		680,000		9,625,000
Revenue Bond, Series V-2016	12,000,000	2.125-5.0	08/05/16	03/01/46	11,300,000		250,000		11,050,000
Revenue Bond Refunding, Series W-2017	8,065,000	5.0	04/07/17	03/01/27	6,720,000		705,000		6,015,000
Revenue Bond, Series X-2017	12,000,000	2.0-5.0	09/15/17	03/01/47	11,565,000		245,000		11,320,000
Revenue Bond, Series Y-2018	8,000,000	3.0-5.0	09/14/18	03/01/48	7,790,000		155,000		7,635,000
Revenue Bond Refunding, Series Z-2020	6,755,000	4.0-5.0	05/22/20	03/01/30	-	6,755,000	-		6,755,000
					$ 114,940,000	$ 6,755,000	$ 6,510,000	$ 9,675,000	$ 105,510,000

Knoxville Utilities Board Gas Division
Statistical Information - Schedule of Insurance in Force
June 30, 2020
(Unaudited)

Insurance coverage is for KUB as a consolidated entity.

Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), OPEB Trust funds, and Medical Plan. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $575,000 per individual participant.

Knoxville Utilities Board Gas Division

Statistical Information - Schedule of Current Rates in Force

June 30, 2020

(Unaudited)

Rate Class	Base Charge	Number of Customers
Residential (G-2)	For the regular monthly billing period for the months of November to April, inclusive: Customer charge per month $10.90 First 30 therms per month at $0.9437 per therm Excess over 30 therms per month at $0.7315 per therm For the regular monthly billing periods for the months of May to October, inclusive: Customer charge per month $10.90 First 50 therms per month $0.7650 per therm Excess over 50 therms per month at $0.6464 per therm	94,852
Commercial (G-4)	Available to any commercial or industrial customer: Customer charge per month $31.00 First 250 therms per month at $0.9188 per therm Excess over 250 therms per month at $0.7997 per therm	9,332
Commercial (G-6)	Available to any commercial or industrial customer incurring a demand of twenty-seven therms or more during the current monthly billing period or during any of the eleven net preceding monthly billing periods. The net rate is the sum of the following demand and commodity charges: Customer charge: $185.00 per month Demand charge: $2.05 per therm of demand Commodity charge: First 30,000 therms per month at $0.5564 per therm Excess over 30,000 therms per month at $0.4584 per therm	223
Industrial (G-7)	Service under Rate Schedule G-7 shall be available to any customer who meets the following conditions: (a) Customer's annual Interruptible Gas use, on an actual or projected basis, shall not be less than 25,000 dekatherms; (b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-7 for each two (2) dekatherms of Interruptible Gas which are purchased; (c) Customer must have standby equipment of sufficient capacity capable of providing the customer's normal gas service requirements for a period of five (5) working days without replenishment when Interruptible Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision; and (d) KUB must determine that its existing distribution system facilities are adequate and available for the requested service.	10

Knoxville Utilities Board Gas Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
	The net rate is the sum of the following demand and commodity charges:	

Customer charge:	$575.00 per month
Demand charge:	$20.50 per month per dekatherm of demand
Commodity charge:	(a) Firm Gas - $4.584 per dekatherm (b) Interruptible Gas - (i) First 3,000 dekatherms per month at $4.275 per dekatherm; excess of 3,000 to 20,000 dekatherms per month at $3.652 per dekatherm; plus excess over 20,000 to 50,000 dekatherms per month at $2.821 per dekatherm; excess over 50,000 dekatherms per month at $2.541 per dekatherm (c) Supplemental Gas - The Commodity Charge for Supplemental Gas shall be the total of: (a) the cost per dekatherm to KUB for the applicable Day of acquiring Supplemental Gas on the open market, subject to the approval of the Customer to purchase Supplemental Gas at or above such price and (b) the costs incurred by KUB in transporting such Supplemental Gas via connecting pipelines to one or more of KUB's delivery points.
Transportation charge:	$2.449 per dekatherm for the first 3,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $1.826 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.995 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas Redelivered plus Unauthorized Gas; plus $.715 per dekatherm for the excess over 50,000 dekatherms of gas Redelivered plus Unauthorized Gas.
Unauthorized Gas charge:	$25.00 per dekatherm of Unauthorized Gas as a penalty, plus the total of: (a) the cost per dekatherm of obtaining such gas on the open market as determined by the higher of (1) the applicable Gulf Coast Price Index for the applicable Day as published in *Gas Daily* or, if *Gas Daily* is no longer published, in a comparable reliable source for natural gas prices or (2) the applicable first of the month Gulf Coast Price Index as published in *Inside FERC*, or if *Inside FERC* is no longer published, in a comparable reliable source for natural gas prices and (b) the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points.

Knoxville Utilities Board Gas Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
G-11	Service under Rate Schedule G-11 shall be available to any customer who meets the following conditions:	13

(a) Customer's annual gas usage (excluding Firm Gas), on an actual or projected basis, shall not be less than 25,000 dekatherms;

(b) Customer shall be permitted to purchase only one (1) dekatherm of Firm Gas under Rate Schedule G-11 for each two (2) dekatherms of Transport Gas delivered by KUB to the Customer;

(c) Customer must have standby equipment of sufficient capacity capable of providing the customer's normal gas service requirements for a period of five (5) working days without replenishment when Transport Gas is completely interrupted. Customer shall maintain such equipment ready for operation at any time and shall utilize a fuel other than gas furnished by KUB and shall be subject to periodic inspections by KUB to ensure compliance with this provision;

(d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB.

(e) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; and

(f) Customer must execute a Transportation Service Agreement for interruptible transportation gas service.

The net rate is the sum of the following charges:

Customer charge:	$750.00
Demand charge:	$20.50 per dekatherm of demand
Firm Gas charge:	$4.584 per dekatherm
Transportation charge:	$2.449 per dekatherm for the first 3,000 dekatherms of non-Firm gas delivered to Customer; plus $1.826 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of non-Firm gas delivered to Customer; plus $.995 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of non-Firm gas delivered to Customer; plus $.715 per dekatherm for the excess over 50,000 dekatherms of non-Firm gas delivered to Customer.
Unauthorized Gas charge:	$25.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for "Transco zone 5 delivered" or "Tennessee 500 Leg," whichever is higher for the applicable Day as published in *Gas Daily*. If *Gas Daily* is no longer published, or one of the aforementioned indeces is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion.
Other charges:	Imbalance Charges, and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.

Knoxville Utilities Board Gas Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	**Base Charge**	**Number of Customers**
G-12	Service under Rate Schedule G-12 shall be available to any customer when the following conditions are met: (a) Customer's annual gas usage, on an actual or projected basis, shall not be less than 12,500 dekatherms; (b) KUB must determine that its existing distribution system facilities are adequate and available for the requested service; (c) Customer must execute a Transportation Service Agreement for firm transportation gas service; and (d) Customer's use under this rate shall not work a hardship on any other customers of KUB, nor adversely affect any other class of KUB's customers and further provided the Customer's use under this rate shall not adversely affect KUB's gas purchase plans and/or effective utilization of the daily demands under KUB's gas purchase contracts with its suppliers, as solely determined by KUB. The net rate is the sum of the following charges: Customer charge: $750.00 Demand charge: $6.60 per dekatherm of demand Transportation charge: $2.768 per dekatherm for the first 3,000 dekatherms of gas delivered to Customer; plus $1.977 per dekatherm for each dekatherm from 3,000 to and including 20,000 dekatherms of gas delivered to Customer; plus $1.057 per dekatherm for each dekatherm from 20,000 to and including 50,000 dekatherms of gas delivered to Customer; plus $.956 per dekatherm for the excess over 50,000 dekatherms of gas delivered to Customer. Unauthorized Gas charge: $25.00 per dekatherm of Unauthorized Gas as a penalty, plus (a), the total cost per dekatherm of obtaining such gas on the open market, as defined below, plus (b), the costs incurred by KUB in transporting such Unauthorized Gas via connecting pipelines to one or more of KUB's delivery points. The cost per dekatherm of obtaining such gas on the open market, (a) above, is defined as an index price based on the High Common price for "Transco zone 5 delivered" or "Tennessee 500 Leg," whichever is higher for the applicable Day as published in *Gas Daily.* If *Gas Daily* is no longer published, or one of the aforementioned indeces is not published, or for any other reason as determined by KUB, KUB will select an industry recognized index at its sole discretion. Other charges: Imbalance Charges, and any pipeline scheduling, balancing, transportation, or other similar charges incurred by KUB in connection with the transportation of gas on behalf of the Customer, as applicable.	3

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Gas Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 29, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Gas Division of the Knoxville Utilities Board
Knoxville, Tennessee

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board Gas Division
Schedule of Findings and Questioned Costs
June 30, 2020

Section I -- Summary of Auditor's Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting: Material weakness(es) identified?	No
Significant deficiency(s) identified not considered to be material weaknesses?	None reported
Noncompliance material to financial statements:	No

Section II -- Financial Statement Findings
None reported.

Section III – Findings Required by the State of Tennessee Audit Manual
None reported.

Section IV -- Summary Schedule of Prior Year Audit Findings

2019-03

In May 2019, it was discovered that an employee in the KUB Gas Engineering Department in the Gas Division had falsified timesheets resulting in $2,740.50 of overpayments for false time reported. The employee resigned in lieu of termination. The employee paid full restitution of $2,740.50 to KUB.

APPENDIX D-1

THE WATER DIVISION

THE WATER DIVISION

INTRODUCTION

The Water Division has been owned and operated by the City since 1909. The Water Division consists of a complete system for the treatment, storage and distribution of water.

The Water Division distributes water to 80,961 customers on an exclusive basis covering 188 square miles throughout the City and on a non-exclusive basis in portions of Knox, Sevier and Jefferson counties.

SOURCE OF WATER SUPPLY

The KUB service area is supplied with water from the Tennessee River. The river furnishes an abundant supply of water for the Mark B. Whitaker Plant (the "MBW"), which is KUB's sole water plant and has a capacity of 62 million gallons per day (MGD).

Tennessee Valley Authority reservoirs are upstream, providing the river a year-round flow far in excess of the City's needs. Even during drought conditions, Knoxville's water supply has been more than adequate to meet customer requirements. MBW's average flow for fiscal year 2020 was 34.8 MGD.

KUB is committed to delivering a reliable supply of high quality drinking water to its customers. KUB's water quality laboratory is one of the few utility laboratories in the state certified by the State Department of Health and Environment to perform the complicated analysis necessary to maintain compliance with all federal drinking water regulations. The Safe Drinking Water Act of 1986 provides for mandatory disinfection and filtration treatment processes, which the Water Division has constantly maintained.

Capital projects that have improved the water filtration facilities at MBW include new filter valves and actuators. Those upgrades provide more operational flexibility for the plant.

KUB's excellent track record in providing high quality, reliable water supply to its customers has been achieved by maintaining excess capacity. KUB's reliance on a single water treatment plant combined with rising customer expectations and the potential for natural and man-made impacts on the water system provided the impetus to reassess KUB's long-term strategy.

With an objective of achieving redundant firm capacity of approximately 38 MGD, two major options were considered, including (1) the construction of a second water plant on a different portion of KUB's water system and (2) a combination of projects that would provide redundancy at MBW and "harden" key elements of KUB's existing treatment processes at MBW.

After careful consideration, KUB is in the process of implementing redundancy and hardening at MBW through a series of capital projects, including the construction of a second full treatment train adjacent to the current plant. This additional treatment train will include dual intakes upstream of MBW on the Holston and French Broad Rivers, additional filters/clarifiers, new pumping and storage facilities, and new high service transmission mains extending from MBW.

This approach will meet reliability goals, mitigate primary risk factors at MBW, and provide additional operational flexibility for day-to-day plant operations, while achieving a considerable savings compared to the construction of a second treatment plant. KUB will invest approximately $149 million in various redundant facilities at its existing MBW Treatment Plant over a 15-year period that began in fiscal year 2017. This cost is significantly less than the estimated $250 million it would cost to construct a second water plant with 40 MGD treatment capacity. The deployment will be funded by debt and incremental rate increases beginning fiscal year 2017. In April 2015, KUB management presented a modified long-term funding plan for the Water Division to the KUB Board of Commissioners that accommodates the projected level of capital investment. The water rate increases previously adopted by the Board for July 2015 and July 2016 were not modified.

KUB constructed a new Low Service Pump Station (LSPS) in May 2014 to address the reliability of the raw water pumping system at MBW. The system moves raw water from the Tennessee River to the MBW clarification system. The $8.5 million project included a new 70 MGD pump station with four submersible pumps, a new electrical building, piping, and controls to help KUB provide safe, high quality water for many years to come.

In fiscal year 2017, KUB completed the transition to a new disinfection system at the MBW Treatment plant.

In fiscal year 2020, construction of a new generator building with three 2,500 kW diesel generators and associated switchgear is nearing completion at the MBW Water Treatment Plant. Startup is scheduled for October 2020.

THE WATER DISTRIBUTION SYSTEM

KUB's water distribution system territory covers 188 square miles. The system includes 25 booster pump stations, 28 storage facilities, and 1,410 miles of water service main.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board formally endorsed a ten-year funding plan for the water system, including a combination of rate increases and debt issues. The Board also approved three years of annual water rate increases for fiscal years 2012 through 2014.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system and the progress made during the resumption of the Century II program. A revised ten-year funding plan for the water system, including recommendations for annual rate increases and debt issues to fully fund the programs for each division, was included in the assessment.

In June 2014, the Board approved three annual rate increases for the Water Division. The three rate increases were effective July 2014, July 2015 and July 2016. The July 2014, July 2015, and July 2016 rate increases provided an additional $3.6 million, $2 million, and $2 million of additional annual Water Division revenue, respectively.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort, of which the Water Division's share is $25.1 million. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending $20.9 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of water rate increases to support the Century II program. The three approved water rate increases went into effect July 2017, July 2018, and July 2019 generating $3.1 million, $3.1 million, and $3.3 million in additional annual Water Division revenue, respectively.

KUB remains on track with its Century II water system infrastructure program. In fiscal year 2020, KUB replaced 8.1 miles of galvanized water main and 5.7 miles of cast iron main while staying within the Water Division's total capital budget.

PENSION PLAN

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	**2018**
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through “Plan A” for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through “Plan B” for former “City System Plan B” participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan’s investments are held by State Street Bank and Trust Company (the “Trustee”). The Plan’s policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

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Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $336,157 and $410,366 are attributable to the Water Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Water Division's portion of this contribution is $411,798. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Water Division's portion of this contribution is $476,472. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

See Appendix D-2 for additional pension plan information.

QUALIFIED EXCESS BENEFIT ARRANGEMENT (QEBA)

Description

fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68 ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $2,631 at June 30, 2020, and $30,145 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	2018
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

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Changes in total pension liability of the QEBA are as follows:

		Increase (Decrease)
		Total Pension Liability
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions

The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

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Discount rate

The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate

The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $25,883). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $4). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $2,818) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $711) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $28,375). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $1,387). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $1,790) and a deferred outflow of $29,385 (Division's share $3,820) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $791).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources		Deferred Inflows of Resources	
Differences between expected and actual experience	$	5,500	$	21,675
Changes in assumptions		40,059		13,770
Contributions subsequent to measurement date		6,083		-
Total	$	51,642	$	35,445
Division's share	$	6,713	$	4,608

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $791). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:		
2021	$	8,289
2022		8,289
2023		(9,140)
2024		2,676
Thereafter		-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $3,841). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $3,757). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,067).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $2,387). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $5,730). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $942).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 7,739	$ 6,144

OTHER POST-EMPLOYMENT BENEFITS (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (the OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the Plan.

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Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division's share $40,472). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Water Division's portion of this contribution is $98,439. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Water Division's portion of this contribution is $63,579. The Plan's actuarial funded ratio is 97.68 percent.

See Appendix D-2 for additional OPEB information.

FISCAL YEAR 2021 FINANCIAL UPDATE

For the six months ending December 31, 2020, KUB's Water Division had earnings of $7.3 million, representing a decrease of $2.5 million from the previous fiscal year. This decrease is the result of a 3.5 percent decline in water sales volumes compared to last fiscal year.

KUB sold $9 million in water system revenue bonds in October 2020 for the purpose of funding water system capital improvements. As of December 31, 2020, the Water Division had $213.9 million in outstanding debt, representing a debt to capitalization ratio of 50.5 percent. The

Water Division's current maximum debt service coverage ratio is 2.06.

Capital investment in water system infrastructure is approximately $24.3 million for fiscal year 2021, reflecting KUB's continued commitment to the timely replacement of aging water pipe.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources. In response to the COVID-19 pandemic, the Water Division chose to forego a proposed 5% rate increase for fiscal year 2021 to reduce financial impact on its customers.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

WATER RATES

The current rate schedules of the Water Division are as follows:

WATER GENERAL SERVICE - RESIDENTIAL

Availability

Service under this rate schedule shall be available only to residential customers served individually through a separate meter.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

Rate

The Water Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's meter size and monthly water usage.

In the event more than one meter is utilized to determine billed consumption, multiple basic service charges may apply. Charges will apply without regard to ownership of the meter(s).

I. Inside City Rate

For water furnished to premises entirely within the corporate limits of the City of Knoxville:

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Basic Service Charge	
5/8” meter	$18.00
1” meter	$32.10
1 ½” meter	$44.00
2” meter	$60.00

For meters greater than 2” the Customer Charges listed in the Water Nonresidential schedule shall be utilized.

Commodity Charge			
First	2 Ccf	at	$1.00 per Ccf
Over	2 Ccf	at	$2.65 per Ccf

II. Outside City Rate

For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville:

Basic Service Charge	
5/8” meter	$19.40
1” meter	$36.40
1 ½" meter	$50.40
2” meter	$69.40

For meters greater than 2” the Customer Charges listed in the Water Nonresidential schedule shall be utilized.

Commodity Charge			
First	2 Ccf	at	$1.05 per Ccf
Over	2 Ccf	at	$3.20 per Ccf

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

WATER GENERAL SERVICE – NONRESIDENTIAL

Availability

Service under this rate schedule shall be available to any commercial or industrial customer.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

Rate

The Water Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's meter size and monthly water usage.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

I. Inside City / Industrial Park Rate

For water furnished to premises entirely within the corporate limits of the City of Knoxville or within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:

Customer Charge	
5/8" meter	$ 18.00
1" meter	$ 32.10
1 ½" meter	$ 44.00
2" meter	$ 60.00
3" meter	$ 161.00
4" meter	$ 266.00
6" meter	$ 583.00
8" meter	$1,026.00
10" meter	$1,563.00
12" meter	$2,311.00

Commodity Charge	
First	2 Ccf at $ 2.15 per Ccf
Next	8 Ccf at $ 4.55 per Ccf
Next	90 Ccf at $ 5.65 per Ccf
Next	300 Ccf at $ 4.20 per Ccf
Next	4,600 Ccf at $ 2.60 per Ccf
Over	5,000 Ccf at $ 1.20 per Ccf

II. Outside – City Rate

For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville, excluding premises within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:

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Customer Charge	
5/8” meter	$ 19.40
1” meter	$ 36.40
1 ½" meter	$ 50.40
2” meter	$ 69.40
3” meter	$ 192.00
4” meter	$ 321.00
6” meter	$ 701.00
8” meter	$1,231.00
10” meter	$1,873.00
12” meter	$2,775.00

Commodity Charge	
First	2 Ccf at $2.55 per Ccf
Next	8 Ccf at $5.30 per Ccf
Next	90 Ccf at $6.85 per Ccf
Next	300 Ccf at $4.90 per Ccf
Next	4,600 Ccf at $3.15 per Ccf
Over	5,000 Ccf at $1.45 per Ccf

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE B – PRIVATE FIRE SERVICE

Availability

Under this schedule, KUB provides water supply to privately owned automatic sprinklers or hose outlets. Such service is available to any residential, commercial, or industrial customer.

Rate

1. The private Fire Service Charge shall be calculated using the table below based on the customer’s fire line connections.

Monthly Service Charge per Connection	
Connection less than 4”	$ 26.14
4” Connection	$ 97.65
6” Connection	$213.15
8” Connection	$374.15
10” Connection	$570.85
12” Connection and greater	$843.85

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These service charges shall be in addition to the charge for any water use through fire line connections. The amount of unmetered water so used, as determined by KUB, shall be paid for at KUB's applicable rate schedules.

No charge under this Schedule B shall be made where the water supply to private fire protection facilities is through one or more metered connection(s) for which payment is made under the Water General Service – Nonresidential Rate Schedule.

No credit for charges under this rate schedule shall be allowed against the Water General Service – Nonresidential Rate Schedule charge for water supplied through a fire line to one or more metered connection(s) where the fire line serves as a connecting line between the metered connection(s) and KUB's mains.

Rules and Regulations

2. Service is subject to Rules and Regulations of KUB.

SCHEDULE C – UNMETERED GOVERNMENT SERVICE

For water used from KUB's mains with KUB's permission by any department of a governmental entity through unmetered fire hydrants for purposes other than for public fire service:

I. Inside – City Rate

The total amount of water used monthly by each department of a governmental entity for such purposes through a fire hydrant within the corporate limits of the City of Knoxville shall be billed to each such department at the Inside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

II. Outside – City Rate

The total amount of water used monthly by each department of a governmental entity for such purposes through a fire hydrant outside the corporate limits of the City of Knoxville shall be billed to each such department at the Outside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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SCHEDULE D – PUBLIC FIRE PROTECTION SERVICE

Availability

Service under this schedule shall be available only to a governmental entity that undertakes to provide public fire protection service for an area that contains at least four square miles. KUB reserves the right to require any applicant for service under this schedule to execute a contract specifying, among other things, a minimum bill and minimum term for service.

Rate

For public fire protection service rendered, the governmental entity shall pay KUB a fire protection service charge at the rate of $524.21 per year for each KUB owned public fire hydrant located within the jurisdictional boundaries of the governmental entity and within areas provided public fire protection service by such governmental entity. In addition to the fire protection service charge, the governmental entity shall pay for all water used for fire fighting at rates set forth in the Water General Service – Nonresidential Rate Schedule.

KUB may contract with other utility providers to supply public fire protection service to an eligible governmental entity in any service area (or portion thereof), where KUB determines it desirable to do so. Charges to a governmental entity for fire protection service provided under such a contract shall be at the same rate specified above, and the hydrants of the utility provider utilized under such a contract shall be deemed to be facilities owned by KUB for the sole purpose of calculating charges under this schedule.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE E – SALES FOR RESALE

Availability

For water purchased on an interruptible basis for resale by a customer that does not use KUB as its sole supplier of water. This service shall be available only on an interruptible basis and only to the extent, in KUB's sole opinion, that such service can be supplied through existing facilities without adversely affecting water service to any other customer of KUB. Nothing contained herein shall prevent KUB from providing water for resale under the Water General Service – Nonresidential Rate Schedule.

Commodity Charge

$1.70 per 100 Cubic Feet

Any unauthorized usage under this tariff shall be billed at the Outside City rates set forth in the Water General Service – Nonresidential Rate Schedule.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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KNOXVILLE UTILITIES BOARD
WATER DIVISION
CAPITALIZATION HISTORY

Historical	Fiscal Year	Accumulated Earnings	Contributed Capital	Revenue Bonds	Revenue Notes	Total Capitalization	Debt as % of Capitalization
	2016	$ 162,993,675	$ -	$ 143,990,000	$ -	$ 306,983,675	46.90%
	2017	$ 169,034,244	$ -	$ 164,635,000	$ -	$ 333,669,244	49.34%
	2018	$ 177,840,321	$ -	$ 179,165,000	$ -	$ 357,005,321	50.19%
	2019	$ 188,011,582	$ -	$ 192,820,000	$ -	$ 380,831,582	50.63%
	2020	$ 202,337,153	$ -	$ 204,890,000	$ -	$ 407,227,153	50.31%

KNOXVILLE UTILITIES BOARD
WATER DIVISION
OPERATING STATISTICS
for the Fiscal Years ending on June 30

	2016	2017	2018	2019	2020
Revenues:					
General Customers	$ 40,492,731	$ 43,184,877	$ 45,251,923	$ 47,996,074	$ 50,690,076
Private Fire Protection	1,794,941	1,935,549	2,636,427	3,431,913	4,212,473
Public Fire Protection	3,128,501	3,295,537	3,547,621	3,668,547	3,982,044
Sales to Public Authorities	557,291	1,094,941	1,113,407	1,121,460	1,271,157
Total Sales Revenues	$ 45,973,464	$ 49,510,904	$ 52,549,378	$ 56,217,994	$ 60,155,750
Other Revenues	$ 1,479,937	$ 1,258,735	$ 1,815,837	$ 1,855,485	$ 2,317,774
Total Revenues	$ 47,453,401	$ 50,769,639	$ 54,365,215	$ 58,073,479	$ 62,473,524
Water Usage - (000s Gallons*):					
General Customers	7,650,968	7,786,268	7,636,582	7,579,777	7,448,209
Other	314,592	590,289	561,798	530,320	562,052
Total	7,965,560	8,376,557	8,198,380	8,110,097	8,010,261
Number of Customers:					
General Customers	77,515	77,927	78,381	78,882	79,377
Private Fire Protection	1,460	1,511	1,537	1,564	1,579
Public Fire Protection	2	2	2	1	1
Other	3	2	3	2	4
Total	78,980	79,442	79,923	80,449	80,961
Input to System (000s Gallons)	12,007,400	12,618,000	12,443,100	12,579,220	12,700,180
Source of Supply and Treatment Expense	$ 4,186,197	$ 4,375,320	$ 4,352,170	$ 3,984,176	$ 3,644,360

KNOXVILLE UTILITIES BOARD
WATER DIVISION
CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For The Fiscal Years Ending on June 30

	2016	2017	2018	2019	2020
Operating Revenues:	$ 47,453,401	$ 50,769,639	$ 54,365,215	$ 58,073,479	$ 62,473,524
Operation Expenses:					
Treatment	$ 4,186,197	$ 4,375,320	$ 4,352,170	$ 3,984,176	$ 3,644,360
Distribution	12,644,428	13,986,235	14,940,310	15,417,999	15,175,452
Customer Service	1,666,099	1,718,639	1,611,813	1,886,682	1,659,209
Administrative and General	4,838,122	4,956,420	4,775,460	6,632,782	6,397,245
Provision for Deprec. & Amortization	9,055,221	9,792,630	10,379,928	10,315,031	10,039,955
Taxes and Tax Equivalents	3,717,163	4,086,575	4,151,052	4,418,426	4,327,074
Total Operating Expenses	$ 36,107,230	$ 38,915,819	$ 40,210,733	$ 42,655,096	$ 41,243,295
Operating Income	$ 11,346,171	$ 11,853,820	$ 14,154,482	$ 15,418,383	$ 21,230,229
Non-Operating Revenues / Expenses:					
Contributions in aid of construction	$ 895,530	$ 701,334	$ 926,471	$ 860,459	$ 1,298,668
Interest and dividend income	194,146	307,829	588,153	885,864	841,842
Interest expense	(5,611,878)	(6,021,974)	(6,340,380)	(6,839,885)	(7,132,413)
Write-down of plant for costs recovered through contributions	(895,530)	(701,334)	(926,471)	(860,459)	(1,298,668)
Other	(235,137)	(222,946)	(233,257)	142,901	(670,475)
Total Non-Operating	$ (5,652,869)	$ (5,937,091)	$ (5,985,484)	$ (5,811,120)	$ (6,961,046)
Change in Net Position before	$ 5,693,302	$ 5,916,729	$ 8,168,998	$ 9,607,263	$ 14,269,183
Capital contribution	301,196	123,840	49,129	563,998	56,388
Change in Net Position	$ 5,994,498	$ 6,040,569	$ 8,218,127	$ 10,171,261	$ 14,325,571
Net Position, beginning of year	$ 156,999,177	$ 162,993,675	$ 169,034,244	$ 177,840,321	$ 188,011,582
Adjustment	-	-	587,950	-	-
Net Position, end of year	**$ 162,993,675**	**$ 169,034,244**	**$ 177,840,321**	**$ 188,011,582**	**$ 202,337,153**

Source: The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Water Division and the Board's internal financial records and should be read in conjunction therewith.

KNOXVILLE UTILITIES BOARD
WATER DIVISION
OPERATING AND FINANCIAL HISTORY OF THE WATER DIVISION

OPERATING REVENUE FROM WATER SALES

Fiscal Year Ended June 30	Revenue	
2011	$	36,415,692
2012	$	37,475,750
2013	$	38,063,528
2014	$	39,373,714
2015	$	44,173,190
2016	$	47,453,401
2017	$	50,769,639
2018	$	54,365,215
2019	$	58,073,479
2020	$	62,473,524

WATER SALES IN GALLONS

Fiscal Year Ended June 30	Thousand Gallons
2011	8,391,634
2012	8,322,082
2013	7,984,756
2014	7,807,977
2015	7,944,545
2016	7,965,560
2017	8,376,557
2018	8,198,380
2019	8,110,097
2020	8,010,261

TEN LARGEST WATER SYSTEM CUSTOMERS - 2020

The ten largest Water System customers, as of June 30, 2020, in order of total sales generated are listed below. Those ten water customers represent 20.63% of the total water sales based on revenue and 24.17% of the total water based on sales volume.

	Customer	**Consumption CCF**	**Sales Revenue**	**Percent of Sales Revenue**
1.	City of Knoxville	153,160	$ 4,674,737	7.77%
2.	University of Tennessee	740,430	3,126,292	5.20%
3.	KCDC	177,442	868,065	1.44%
4.	Shady Grove Utility District	430,855	729,098	1.21%
5.	Knox County Schools	69,179	578,151	0.96%
6.	Public Building Authority	126,505	549,392	0.91%
7.	Dandridge Water Management Facility	320,504	541,980	0.90%
8.	University Health Systems Inc	203,839	458,219	0.76%
9.	Rohm & Haas Tennessee Inc	211,319	457,608	0.76%
10.	KUB	155,527	427,175	0.71%
	TOTAL	**2,588,760**	**$ 12,410,717**	**20.63%**

Total Water Sales Revenue		$ 60,155,750
Top 10 as Percent of Total Water Sales Revenue		20.63%
Total Water Sales Volume(CCF)	10,708,905	
Top 10 as Percent of Total Water Sales Volume	24.17%	

KNOXVILLE UTILITIES BOARD
WATER DIVISION
BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Water Division.

Amount Issued	Series	Due Date	Interest Rates	Outstanding as of June 30, 2020 (1)
$ 10,050,000	Water System Revenue Refunding Bonds, Series X-2012	03-01-29	Fixed	$ 6,460,000
9,285,000	Water System Revenue Refunding Bonds, Series Y-2013	03-01-30	Fixed	7,730,000
25,000,000	Water System Revenue Bonds, Series Z-2013	03-01-44	Fixed	21,600,000
8,000,000	Water System Revenue Bonds, Series AA-2014	03-01-44	Fixed	7,100,000
23,005,000	Water System Revenue Refunding Bonds, Series BB-2015	03-01-33	Fixed	20,035,000
20,000,000	Water System Revenue Bonds, Series CC-2015	03-01-45	Fixed	18,025,000
25,000,000	Water System Revenue Bonds, Series DD-2016	03-01-46	Fixed	23,225,000
20,875,000	Water System Revenue Refunding Bonds, Series EE-2016	03-01-33	Fixed	19,585,000
5,310,000	Water System Revenue Refunding Bonds, Series FF-2017	03-01-27	Fixed	3,900,000
20,000,000	Water System Revenue Bonds, Series GG-2017	03-01-47	Fixed	19,025,000
19,995,000	Water System Revenue Bonds, Series HH-2018	03-01-48	Fixed	19,090,000
19,995,000	Water System Revenue Bonds, Series II-2019	03-01-49	Fixed	19,595,000
19,520,000	Water System Revenue Refunding Bonds, Series JJ-2020	03-01-40	Fixed	19,520,000
$ 226,035,000	**TOTAL DEBT (As of June 30, 2020)**			$ 204,890,000
$ 9,045,000	Water System Revenue Bonds, Series KK-2020 (Issued October 30, 2020)	03-01-50	Fixed	$ 9,045,000
33,180,000	Water System Revenue Refunding Bonds, Series LL-2021	03-01-44	Fixed	33,180,000
(52,335,000)	Less: Bonds Being Refinanced (Series X-2012, Y-2013, Z-2013, and AA-2014)			(41,165,000)
$ 215,925,000	**TOTAL INDEBTEDNESS**			$ 205,950,000

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

KNOXVILLE UTILITIES BOARD
WATER DIVISION
DEBT SERVICE REQUIREMENTS

Fiscal Year	Outstanding Fiscal Year Debt Service on Bonds as of June 30, 2020			Water System Revenue Bonds, Series KK-2020			% Principal Repaid on KK-2020 Bonds	Water System Revenue Refunding Bonds, Series LL-2021			% Principal Repaid on LL-2021 Bonds	Less: Bonds Being Refunded			TOTAL DEBT SERVICE (1)			% Principal Repaid on All Debt
	Principal	Interest	Total	Principal	Interest (2)	Total		Principal	Interest (3)	Total		Principal	Interest	Total	Principal	Interest	Total	
2021	$ 7,140,000	$ 6,962,664	$ 14,102,664	$ 210,000	$ 103,539	$ 313,539	2.32%	$ -	$ -	$ -	0.00%	$ -	$ -	$ -	$ 7,350,000	$ 7,066,203	$ 14,416,203	3.57%
2022	7,335,000	6,824,394	14,159,394	170,000	297,550	467,550		1,225,000	1,299,047	2,524,047		(1,805,000)	(1,381,272)	(3,186,272)	6,925,000	7,039,719	13,964,719	
2023	7,625,000	6,511,744	14,136,744	180,000	289,050	469,050		1,265,000	1,437,650	2,702,650		(1,895,000)	(1,537,875)	(3,432,875)	7,175,000	6,700,569	13,875,569	
2024	7,910,000	6,198,694	14,108,694	190,000	280,050	470,050		1,305,000	1,374,400	2,679,400		(1,930,000)	(1,479,025)	(3,409,025)	7,475,000	6,374,119	13,849,119	
2025	8,235,000	5,894,944	14,129,944	195,000	270,550	465,550	10.45%	1,350,000	1,309,150	2,659,150		(1,995,000)	(1,419,125)	(3,414,125)	7,785,000	6,055,519	13,840,519	
2026	8,550,000	5,611,956	14,161,956	205,000	260,800	465,800		1,400,000	1,241,650	2,641,650	19.73%	(2,085,000)	(1,355,063)	(3,440,063)	8,070,000	5,759,344	13,829,344	21.74%
2027	8,845,000	5,321,650	14,166,650	215,000	250,550	465,550		1,450,000	1,171,650	2,621,650		(2,160,000)	(1,284,619)	(3,444,619)	8,350,000	5,459,231	13,809,231	
2028	9,245,000	5,009,475	14,254,475	230,000	239,800	469,800		2,210,000	1,099,150	3,309,150		(3,015,000)	(1,205,169)	(4,220,169)	8,670,000	5,143,256	13,813,256	
2029	9,550,000	4,711,556	14,261,556	240,000	228,300	468,300		2,340,000	988,650	3,328,650		(3,145,000)	(1,099,319)	(4,244,319)	8,985,000	4,829,188	13,814,188	
2030	9,930,000	4,402,138	14,332,138	250,000	216,300	466,300	23.05%	2,450,000	871,650	3,321,650		(3,335,000)	(988,050)	(4,323,050)	9,295,000	4,502,038	13,797,038	
2031	9,310,000	4,080,025	13,390,025	260,000	208,800	468,800		1,105,000	749,150	1,854,150	48.52%	(1,100,000)	(877,688)	(1,977,688)	9,575,000	4,160,288	13,735,288	43.53%
2032	9,520,000	3,787,644	13,307,644	265,000	201,000	466,000		1,070,000	693,900	1,763,900		(1,125,000)	(834,031)	(1,959,031)	9,730,000	3,848,513	13,578,513	
2033	9,865,000	3,492,338	13,357,338	275,000	193,050	468,050		1,000,000	640,400	1,640,400		(1,200,000)	(787,906)	(1,987,906)	9,940,000	3,537,881	13,477,881	
2034	6,810,000	3,181,263	9,991,263	285,000	184,800	469,800		1,175,000	600,400	1,775,400		(1,225,000)	(737,656)	(1,962,656)	7,045,000	3,228,806	10,273,806	
2035	6,955,000	2,953,100	9,908,100	290,000	176,250	466,250	38.25%	1,215,000	553,400	1,768,400		(1,275,000)	(685,906)	(1,960,906)	7,185,000	2,996,844	10,181,844	
2036	7,100,000	2,719,400	9,819,400	300,000	167,550	467,550		1,255,000	504,800	1,759,800	65.75%	(1,325,000)	(631,781)	(1,956,781)	7,330,000	2,759,969	10,089,969	63.55%
2037	7,235,000	2,481,956	9,716,956	310,000	158,550	468,550		1,285,000	454,600	1,739,600		(1,375,000)	(574,156)	(1,949,156)	7,455,000	2,520,950	9,975,950	
2038	7,385,000	2,239,725	9,624,725	320,000	149,250	469,250		1,335,000	403,200	1,738,200		(1,425,000)	(514,500)	(1,939,500)	7,615,000	2,277,675	9,892,675	
2039	7,555,000	1,991,044	9,546,044	330,000	139,650	469,650		1,370,000	349,800	1,719,800		(1,475,000)	(452,531)	(1,927,531)	7,780,000	2,027,963	9,807,963	
2040	7,695,000	1,728,919	9,423,919	335,000	129,750	464,750	55.89%	1,405,000	295,000	1,700,000		(1,525,000)	(384,406)	(1,909,406)	7,910,000	1,769,263	9,679,263	
2041	6,100,000	1,455,306	7,555,306	350,000	119,700	469,700		1,460,000	238,800	1,698,800	86.41%	(1,600,000)	(313,781)	(1,913,781)	6,310,000	1,500,025	7,810,025	81.55%
2042	6,315,000	1,227,338	7,542,338	360,000	109,200	469,200		1,470,000	180,400	1,650,400		(1,650,000)	(239,281)	(1,889,281)	6,495,000	1,277,656	7,772,656	
2043	6,525,000	991,375	7,516,375	370,000	98,400	468,400		1,520,000	121,600	1,641,600		(1,725,000)	(162,625)	(1,887,625)	6,690,000	1,048,750	7,738,750	
2044	6,765,000	747,325	7,512,325	380,000	87,300	467,300		1,520,000	60,800	1,580,800		(1,775,000)	(82,563)	(1,857,563)	6,890,000	812,863	7,702,863	
2045	5,125,000	498,788	5,623,788	390,000	75,900	465,900	76.34%	-	-	-		-	-	-	5,515,000	574,688	6,089,688	
2046	4,190,000	328,325	4,518,325	405,000	64,200	469,200		-	-	-	100.00%	-	-	-	4,595,000	392,525	4,987,525	96.21%
2047	3,010,000	195,200	3,205,200	415,000	52,050	467,050		-	-	-		-	-	-	3,425,000	247,250	3,672,250	
2048	2,045,000	97,225	2,142,225	425,000	39,600	464,600		-	-	-		-	-	-	2,470,000	136,825	2,606,825	
2049	1,020,000	30,600	1,050,600	440,000	26,850	466,850		-	-	-		-	-	-	1,460,000	57,450	1,517,450	
2050	-	-	-	455,000	13,650	468,650	100.00%	-	-	-	100.00%	-	-	-	455,000	13,650	468,650	100.00%
	$ 204,890,000	**$ 91,676,108**	**$ 296,566,108**	**$ 9,045,000**	**$ 4,831,989**	**$ 13,876,989**		**$ 33,180,000**	**$ 16,639,247**	**$ 49,819,247**		**$ (41,165,000)**	**$ (19,028,328)**	**$ (60,193,328)**	**$ 205,950,000**	**$ 94,119,016**	**$ 300,069,016**	

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) True Interest Cost of 2.358%%.

(3) True Interest Cost of 1.921%.

KNOXVILLE UTILITIES BOARD
WATER DIVISION
HISTORICAL DEBT COVERAGE ON OUTSTANDING WATER BONDS
For the Years Ended June 30

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2022) of the Outstanding Bonds and the Series KK-2020 Bonds and the Series LL-2021 Bonds for fiscal years ended June 30, 2016 through June 30, 2020 is set forth below.

	2016	2017	2018	2019	2020
Operating Revenues	$ 47,453,401	$ 50,769,639	$ 54,365,215	$ 58,073,479	$ 62,473,524
Operating Expenses*	(23,334,846)	(25,036,614)	(25,679,753)	(27,921,639)	(26,876,266)
Net Income Before Depreciation & Taxes	$ 24,118,555	$ 25,733,025	$ 28,685,462	$ 30,151,840	$ 35,597,258
Other Revenue	194,146	307,829	588,153	885,864	841,842
FICA & Medicare Tax Expense	(740,757)	(791,923)	(846,313)	(906,770)	(948,179)
Income available for debt service	23,571,944	25,248,931	28,427,302	30,130,934	35,490,921
Actual annual debt service requirements on outstanding bonds	$ 10,162,232	$ 10,759,521	$ 11,630,115	$ 13,024,114	$ 14,023,460
Coverage	2.32 x	2.35 x	2.44 x	2.31 x	2.53 x
Maximum annual debt service requirement** (FY 2022) on Outstanding Bonds and the Series KK-2020 Bonds and the Series LL-2021 Bonds***	$ 13,964,719	$ 13,964,719	$ 13,964,719	$ 13,964,719	$ 13,964,719
	1.69 x	1.81 x	2.04 x	2.16 x	2.54 x

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart.

*** Series KK-2020 issued on October 30, 2020

WATER DIVISION
REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

Knoxville Utilities Board

Water Division

Financial Statements and Supplemental Information
June 30, 2020 and 2019

KUB Board of Commissioners

Kathy Hamilton - Chair

Adrienne Simpson-Brown - Vice Chair

Dr. Jerry W. Askew

Celeste Herbert

Sara Hedstrom Pinnell

Tyvi Small

John Worden

Management

Gabriel Bolas II
President and
Chief Executive Officer

Mark Walker
Senior Vice President and
Chief Financial Officer

Susan Edwards
Senior Vice President and
Chief Administrative Officer

Derwin Hagood
Senior Vice President and
Chief Operating Officer

Eddie Black
Senior Vice President and
Chief Technology Officer

John Williams
Vice President of
Construction

Mike Bolin
Vice President of Utility
Advancement

Julie Childers
Vice President and
Century II Administrator

John Gresham
Vice President of
Operations

Knoxville Utilities Board Water Division
Index
June 30, 2020 and 2019

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Suite 201
Knoxville, TN 37932

C&J COULTER & JUSTUS, P.C.

phone: (865) 637-4161
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Independent Auditor's Report

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Water Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

Management's Responsibility for the Financial Statements

The Division's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Water Division of the Knoxville Utilities Board as of June 30, 2020 and 2019, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 25 and the required supplementary information on pages 62 through 66 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The supplemental information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The statistical information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Water Division and do not purport to, and do not, present fairly the financial position of the Knoxville Utilities Board, as of June 30, 2020 and 2019, and the changes in its financial position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 29, 2020, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Water Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Water Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division’s discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division’s financial activity, (c) identify major changes in the Division’s financial position, and (d) identify any financial concerns.

The Division’s Management Discussion and Analysis (MD&A) focuses on the fiscal year ended June 30, 2020 activities, resulting changes and current known facts, and should be read in conjunction with the Division’s financial statements.

Water Division Highlights

System Highlights

KUB serves 80,961 water system customers over a 188 square mile service area. KUB maintains 1,410 miles of service mains, 28 storage facilities, 25 booster pump stations, and one treatment plant, which provided 12.7 billion gallons of water to KUB’s water customers in fiscal year 2020. The average daily flow for fiscal year 2020 was 34.8 million gallons.

For the second year in a row, KUB’s system was impacted by excessive rainfall. After record setting levels in 2019, KUB experienced sustained rainfall amounts exceeding Knoxville’s ten-year average for eight months of fiscal year 2020. Despite the record rainfall levels, KUB’s water system functioned well. The excess rainfall levels resulted in higher costs at KUB’s treatment plant, as intake water required additional treatment.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

The water system has added 1,519 customers over the past three years representing annual growth of less than one percent. In fiscal year 2020, 512 customers were added.

The Division generated $3.3 million of additional revenue during the fiscal year as a result of the July 2019 water rate increase, which was adopted by the KUB Board to help fund the Division's Century II infrastructure program.

The typical residential water customer's average monthly bill was $27.95 as of June 30, 2020 (based on monthly use of 500 cubic feet or 3,740 gallons). The monthly bill increased 6.5 percent or $1.50 compared to the prior fiscal year, the result of the July 2019 water rate increase.

Water sales volumes have been impacted by more efficient appliances and the conservation efforts of customers. Based on historical trends, water sales volumes are anticipated to have an annual decline of one percent per year for both residential and non-residential customers.

Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort, of which the Water Division's share is $25.1 million. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending $20.9 million. The project was completed on time and under budget.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of water rate increases to support the Century II program. The three approved water rate increases went into effect July 2017, July 2018, and July 2019 generating $3.1 million, $3.1 million, and $3.3 million in additional annual Water Division revenue, respectively.

In fiscal year 2017, KUB completed the transition to a new disinfection system at the Mark B. Whitaker (MBW) Water Treatment plant.

KUB remains on track with its Century II water system infrastructure program. In fiscal year 2020, KUB replaced 8.1 miles of galvanized water main and 5.7 miles of cast iron main while staying within the Water Division's total capital budget.

KUB is currently in the process of implementing a Water Plant Redundancy initiative to ensure that high quality, reliable water service will be provided to customers over the long term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately $149 million in various redundant facilities at the site of its existing Mark B. Whitaker Water Treatment Plant over a 15-year period that began in fiscal year 2017. Construction of a new generator building with three 2,500 kW diesel generators and associated switchgear is nearing completion at the Mark B. Whitaker Water Treatment Plant. Startup is scheduled for October 2020.

Financial Highlights

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's net position increased $14.3 million in fiscal year 2020, which was $4.1 million higher than the prior fiscal year. Comparatively, net position increased $10.2 million in fiscal year 2019.

Operating revenue increased $4.4 million or 7.6 percent, the result of additional revenue from the water rate increase effective July 2019.

Operating expenses decreased $1.4 million or 3.3 percent. Operating and maintenance expenses (O&M) decreased $1 million compared to the prior year. Depreciation expense was $0.3 million lower than the prior year. Taxes and tax equivalents were $0.1 million lower than the prior year.

Interest income was consistent with the prior fiscal year. Interest expense was $0.3 million higher than the prior year, due to interest expense on new revenue bonds sold during the fiscal year.

Capital contributions were $0.5 million lower than the prior fiscal year, the result of a decrease in assets contributed by developers.

Total plant assets (net) increased $22.6 million or 6.6 percent due to treatment plant improvements, water main replacements, and system improvements.

During fiscal year 2020, KUB sold $20 million in water system revenue bonds for the purpose of funding water system capital improvements and also sold $19.5 million in water system revenue refunding bonds for the purpose of refinancing existing water system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $3.9 million over the life of the bonds ($3.1 million on a net present value basis).

Long-term debt represented 50.3 percent of the Division's capital structure as of June 30, 2020, as compared to 50.6 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 2.53. Maximum debt service coverage was 2.48.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's net position increased $10.2 million in fiscal year 2019, which was $2 million higher than the prior fiscal year. Comparatively, net position increased $8.2 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for Other Post-Employment Benefits (OPEB), increased the total net position by $0.6 million during fiscal year 2018. The change resulted in a total increase of $8.8 million in the Division's net position.

Operating revenue increased $3.7 million or 6.8 percent, the result of additional revenue from the water rate increase effective July 2018.

Operating expenses increased $2.4 million or 6.1 percent. Operating and maintenance expenses (O&M) increased $2.2 million compared to the prior year. Depreciation expense was $0.1 million lower than the prior year. Taxes and tax equivalents were $0.3 million higher than the prior year.

Interest income was up $0.3 million from the prior fiscal year. Interest expense was $0.5 million higher than the prior year, due to interest expense on new revenue bonds sold during the fiscal year.

Capital contributions were $0.5 million higher than the prior fiscal year, the result of increased assets contributed by developers.

Total plant assets (net) increased $22.4 million or 7.1 percent due to treatment plant improvements, water main replacements, and the replacement and relocation of water system assets to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects.

During fiscal year 2019, KUB sold $20 million in water system revenue bonds for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.46 percent.

Long-term debt represented 50.6 percent of the Division's capital structure as of June 30, 2019, as compared to 50.2 percent last year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 2.31. Maximum debt service coverage was 2.24.

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Knoxville Utilities Board Water Division - Financial Statements

The Division's financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, water plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets, restricted, or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position are assets that have been limited to specific uses by the Division's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

Statement of Cash Flows

The Division reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the Division's sources and uses of cash during the reporting period.

The statement indicates the Division's beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

Condensed Financial Statements

Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Water Division compared to the prior two fiscal years.

Statements of Net Position
As of June 30

(in thousands of dollars)	2020	2019	2018
Current, restricted and other assets	$ 59,102	$ 49,922	$ 50,268
Capital assets, net	363,225	340,619	318,177
Deferred outflows of resources	4,534	5,538	3,538
Total assets and deferred outflows of resources	426,861	396,079	371,983
Current and other liabilities	16,191	15,346	13,195
Long-term debt outstanding	205,659	192,222	179,094
Deferred inflows of resources	2,674	500	1,854
Total liabilities and deferred inflows of resources	224,524	208,068	194,143
Net position			
Net investment in capital assets	155,729	147,252	138,682
Restricted	2,240	2,151	1,941
Unrestricted	44,368	38,608	37,217
Total net position	$ 202,337	$ 188,011	$ 177,840

Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation:

- Change in net position (from Statement of Revenues, Expenses and Change in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.

- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

Impacts and Analysis

Current, Restricted and Other Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Current, restricted and other assets increased $9.2 million or 18.4 percent. This reflects a $7.5 million increase in the Division's general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments) and an increase in the actuarially determined net pension asset of $2.5 million.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current, restricted and other assets decreased $0.3 million or 0.7 percent. This reflects a decrease in the actuarially determined net pension asset of $2.6 million, offset by a $1.1 million increase in the Division's general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments) and a $1.2 million increase in operating contingency reserves.

Capital Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Capital assets, net of depreciation, increased $22.6 million or 6.6 percent. Capital expenditures included $9.6 million for water main replacement, $8 million for water plant redundancy program, $5.3 million for system improvements, $3.3 million for building improvements, and $1.9 million for deployment of advanced metering equipment. During the fiscal year, $11.1 million of water system assets were retired.

Fiscal Year 2019 Compared to Fiscal Year 2018

Capital assets, net of depreciation, increased $22.4 million or 7.1 percent. Capital expenditures included $11.3 million for treatment plant and system improvements, $4.7 million for water main replacement, $3.7 million for the replacement, relocation of water system assets to accommodate TDOT highway improvement projects, and $2.9 million for deployment of advanced metering equipment. During the fiscal year, $3.8 million of water system assets were retired.

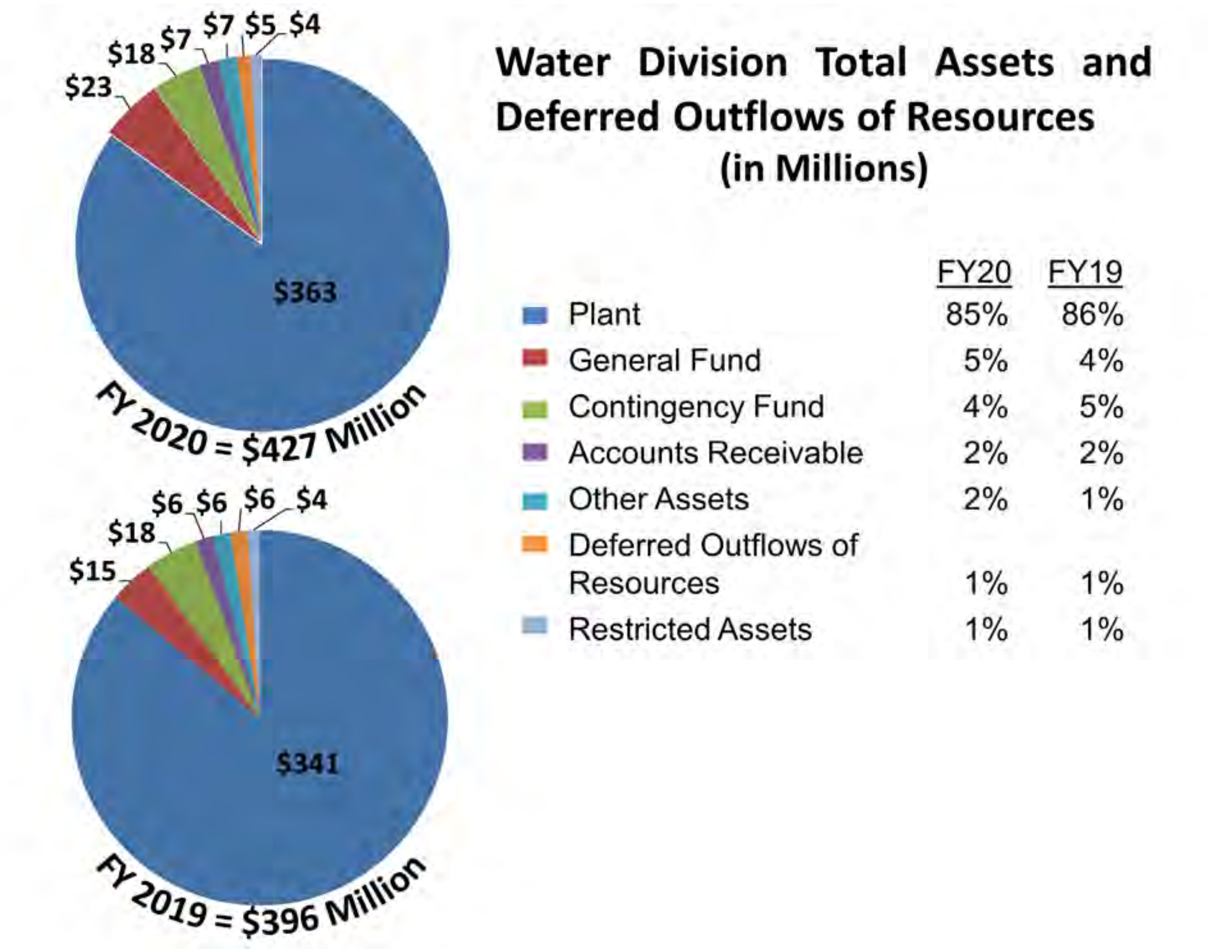
Deferred Outflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred outflows of resources decreased $1 million compared to the prior fiscal year due to a decrease in pension outflow.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred outflows of resources increased $2 million compared to the prior fiscal year due to an increase in pension outflow.



Water Division Total Assets and Deferred Outflows of Resources (in Millions)

	FY20	FY19
■ Plant	85%	86%
■ General Fund	5%	4%
■ Contingency Fund	4%	5%
■ Accounts Receivable	2%	2%
■ Other Assets	2%	1%
■ Deferred Outflows of Resources	1%	1%
■ Restricted Assets	1%	1%

Current and Other Liabilities

Fiscal Year 2020 Compared to Fiscal Year 2019

Current and other liabilities increased $0.8 million compared to the prior fiscal year. This increase reflects a $0.7 million increase in the current portion of revenue bonds, a $0.8 million increase in net OPEB liability, and a $0.2 million increase in accrued compensated absences offset by a $0.9 million decrease in net pension liability.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current and other liabilities increased $2.2 million compared to the prior fiscal year. This increase reflects a $0.9 million increase in net pension liability, a $0.6 million increase in the current portion of revenue bonds and a $0.2 million increase in net OPEB liability.

Long-Term Debt

Fiscal Year 2020 Compared to Fiscal Year 2019

Long-term debt increased $13.4 million or 7 percent. This increase is due to $20 million in water system revenue bonds, sold in July 2019, and water system revenue refunding bonds of $19.5 million, sold in April 2020, offset by the refunded bonds and the scheduled repayment of debt.

Fiscal Year 2019 Compared to Fiscal Year 2018

Long-term debt increased $13.1 million or 7.3 percent. Water system revenue bonds of $20 million, sold in August 2018, were offset by the scheduled repayment of debt.

Deferred Inflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred inflows increased $2.2 million compared to the prior fiscal year due to differences in pension inflows.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred inflows decreased $1.4 million compared to the prior fiscal year due to differences in pension inflows.

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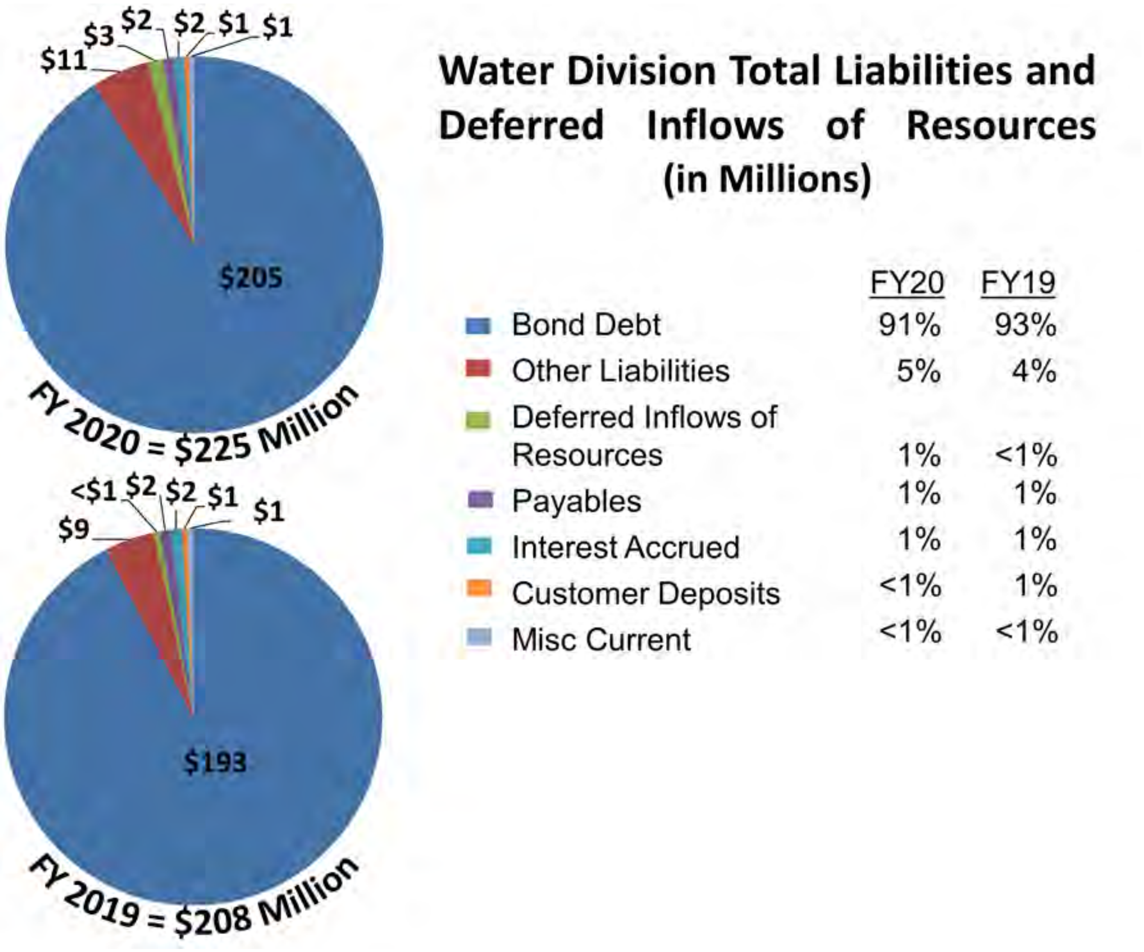

Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

Net position increased $14.3 million in fiscal year 2020. Unrestricted net position increased $5.8 million, primarily due to a $7.5 million increase in the Division's general fund cash (consisting of cash and cash equivalents, short-term investments, and long-term investments). Net investment in capital assets increased $8.5 million, the result of $22.6 million in net plant additions offset by an increase in current portion of revenue bonds and total long-term debt of $14.1 million. Restricted assets increased $0.1 million due to increases in bond fund reserves.

Fiscal Year 2019 Compared to Fiscal Year 2018

Net position increased $10.2 million in fiscal year 2019. Unrestricted net position increased $1.4 million, primarily due to a $2 million increase in deferred outflows of resources compared to the prior fiscal year. Net investment in capital assets increased $8.6 million due to an increase in current portion of revenue bonds and total long-term debt of $13.8 million offset by an increase to net plant in service of $22.4 million. Restricted assets increased $0.2 million due to additional funds restricted for debt service.

Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Water Division compared to the prior two fiscal years.

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Operating revenues	$ 62,474	$ 58,073	$ 54,365
Operating expenses			
Treatment	3,644	3,984	4,352
Distribution	15,176	15,418	14,940
Customer service	1,659	1,887	1,612
Administrative and general	6,397	6,633	4,776
Depreciation	10,040	10,315	10,380
Taxes and tax equivalents	4,327	4,418	4,151
Total operating expenses	41,243	42,655	40,211
Operating income	21,231	15,418	14,154
Interest income	842	886	588
Interest expense	(7,132)	(6,840)	(6,340)
Other income/(expense)	(671)	143	(233)
Change in net position before capital contributions	14,270	9,607	8,169
Capital Contributions	56	564	49
Change in net position	$ 14,326	$ 10,171	$ 8,218

Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Change in Net Position presentation:

- Operating revenues are largely determined by the volumes of water sold during the fiscal year. Any change (increase/decrease) in retail water rates would also be a cause of change in operating revenue.

- Operating expenses (treatment, distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree medical costs, chemicals, and water system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements and changes in property tax rates.

- Interest expense is impacted by the level of interest rates and investments.

- Interest expense on debt is impacted by the level of outstanding debt and the interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

Impacts and Analysis

Change in Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division’s Change in Net Position increased $14.3 million in fiscal year 2020. Comparatively, net position increased by $10.2 million in fiscal year 2019.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division’s Change in Net Position increased $10.2 million in fiscal year 2019. Comparatively, net position increased by $8.2 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for OPEB, increased the total net position by an additional $0.6 million. The change resulted in a total increase of $8.8 million in the Division’s net position.

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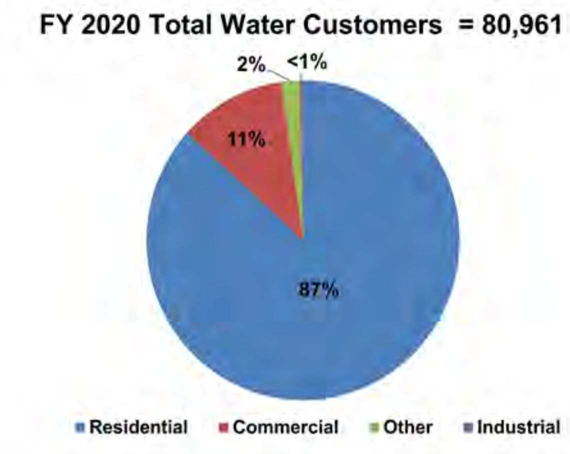
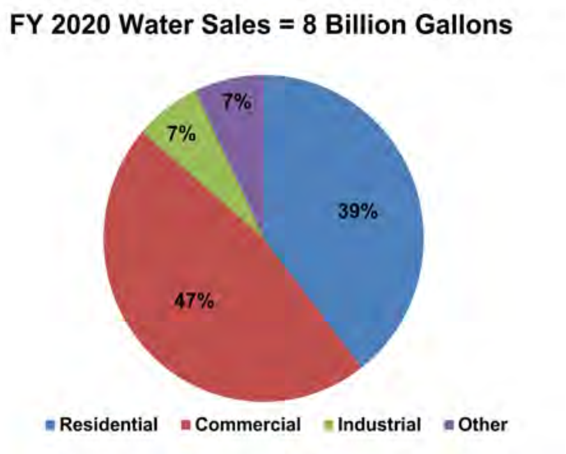
Margin from Sales

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating revenues increased $4.4 million or 7.6 percent. This reflects additional revenue from the 6.5 percent water rate increase effective July 2019 offset by a 1.2 percent decline in billed water sales volumes, as commercial and industrial sales volumes were lower.





Residential customers represented 87 percent of water customers and accounted for 39 percent of water sales volumes for the year. Commercial and industrial customers accounted for the largest portion (54 percent) of total sales volumes during the year.

KUB's ten largest water customers accounted for 24 percent of KUB's billed water volumes. Those ten customers represent one industrial, seven commercial, and two water utility districts. Within the top ten, eight governmental customers are represented.

KUB has added 1,519 water customers over the past three years, representing annual growth of less than one percent. Water system growth is up slightly due to increased new housing construction.

Residential water sales volumes increased 2.7 percent compared to the prior fiscal year.

Commercial water sales volumes decreased 3.4 percent compared to the prior year. Industrial sales volumes decreased 13.2 percent compared to the prior year, due to the closure of a large industrial customer late in the prior fiscal year.

Other water sales volumes (i.e. utility districts) were 6 percent higher than the prior year.

Water consumption for the fiscal year was affected by higher than normal rainfall. Precipitation for the fiscal year was 36 percent higher than normal but 10.9 percent lower than the prior fiscal year.

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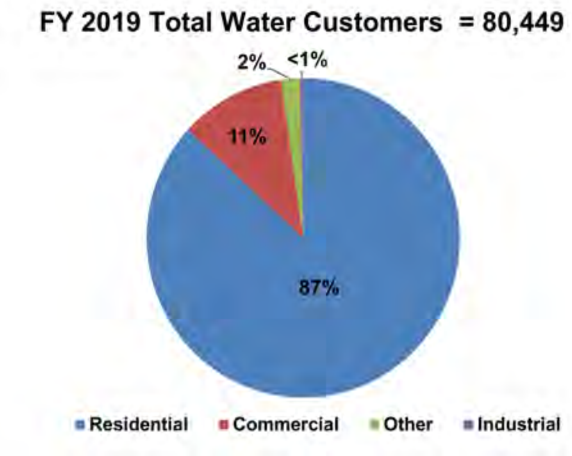
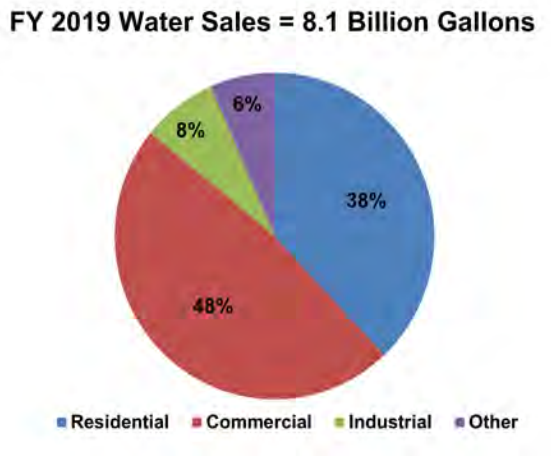
Fiscal Year 2019 Compared to Fiscal Year 2018

Operating revenues increased $3.7 million or 6.8 percent. This reflects additional revenue from the July 2018 water rate increase offset by a 1.1 percent decline in billed water sales volumes, as residential and industrial sales volumes were lower.





Residential customers represented 87 percent of water customers and accounted for 38 percent of water sales volumes for the year. Commercial and industrial customers accounted for the largest portion (56 percent) of total sales volumes during the year.

KUB's ten largest water customers accounted for 23 percent of KUB's billed water volumes. Those ten customers represent one industrial, seven commercial, and two water utility districts. Within the top ten, eight governmental customers are represented.

KUB has added 1,469 water customers over the past three years, representing annual growth of less than one percent. Water system growth is up slightly due to increased new housing construction.

Residential water sales volumes decreased 1.6 percent compared to the prior fiscal year.

Commercial water sales volumes increased 0.8 percent compared to the prior year. Industrial sales volumes decreased 6.1 percent compared to the prior year, partially due to the decrease in production and eventual closure of a large industrial customer.

Other water sales volumes (i.e. utility districts) were 5.6 percent lower than the prior year.

Water consumption for the fiscal year was affected by higher than normal rainfall. February 2019 was the wettest February on record for the service area. Precipitation for the fiscal year was 52.6 percent higher than normal and 43.5 percent higher than the prior fiscal year.

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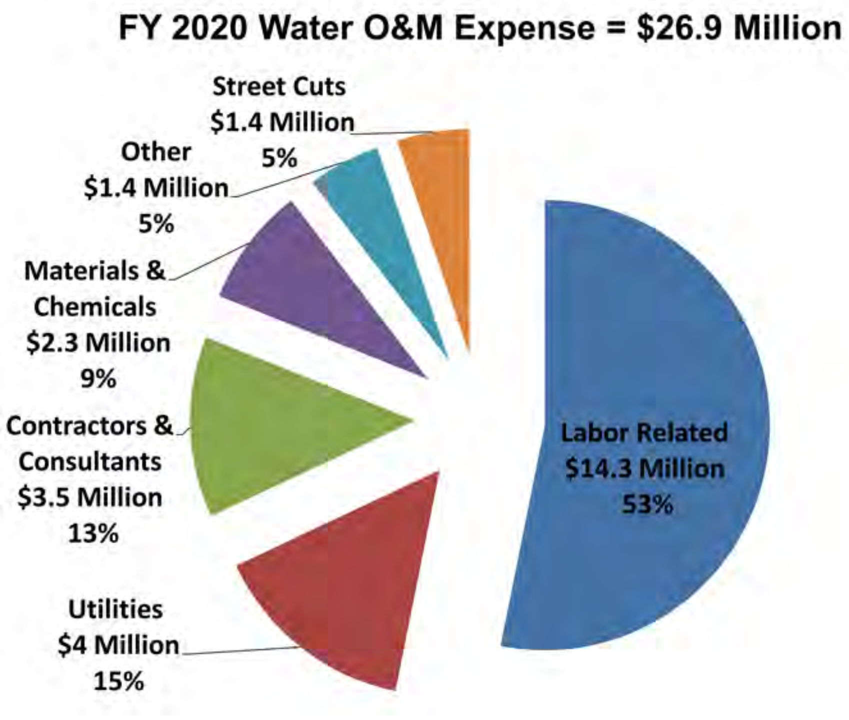
Operating Expenses

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating expenses decreased $1.4 million or 3.3 percent. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution, customer service, and administrative and general.

- Treatment expenses were $0.3 million or 8.5 percent lower than the prior fiscal year due to a decrease in outside contractor costs.
- Distribution expenses were $0.2 million or 1.6 percent lower than the prior fiscal year due to a decrease in outside contractor and consultant costs offset by higher labor related expenses.
- Customer service expenses were $0.2 million lower than the prior fiscal year due to a decrease in outside contractor costs.
- Administrative and general expenses were $0.2 million lower than the prior fiscal year, primarily due to a decrease in insurance and consultant costs offset by higher labor related expenses.



- Depreciation expense was down $0.3 million, as the accelerated depreciation of existing meters replaced as part of KUB's system wide deployment of advanced metering equipment came to a close this year and $11.1 million of assets were retired.
- Taxes and tax equivalents were $0.1 million lower than the prior fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

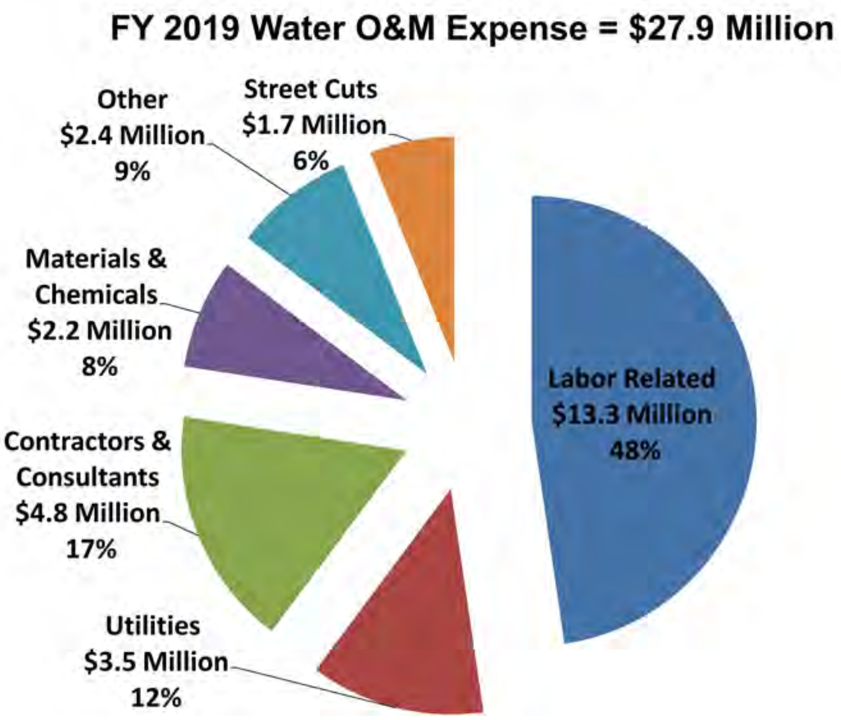
Operating expenses increased $2.4 million or 6.1 percent compared to fiscal year 2018. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution, customer service, and administrative and general.

- Treatment expenses were $0.4 million or 8.5 percent lower than the prior fiscal year due to a decrease in outside contractor costs and labor related expenses.

- Distribution expenses were $0.5 million or 3.2 percent higher than the prior fiscal year due to an increase in outside contractor costs.

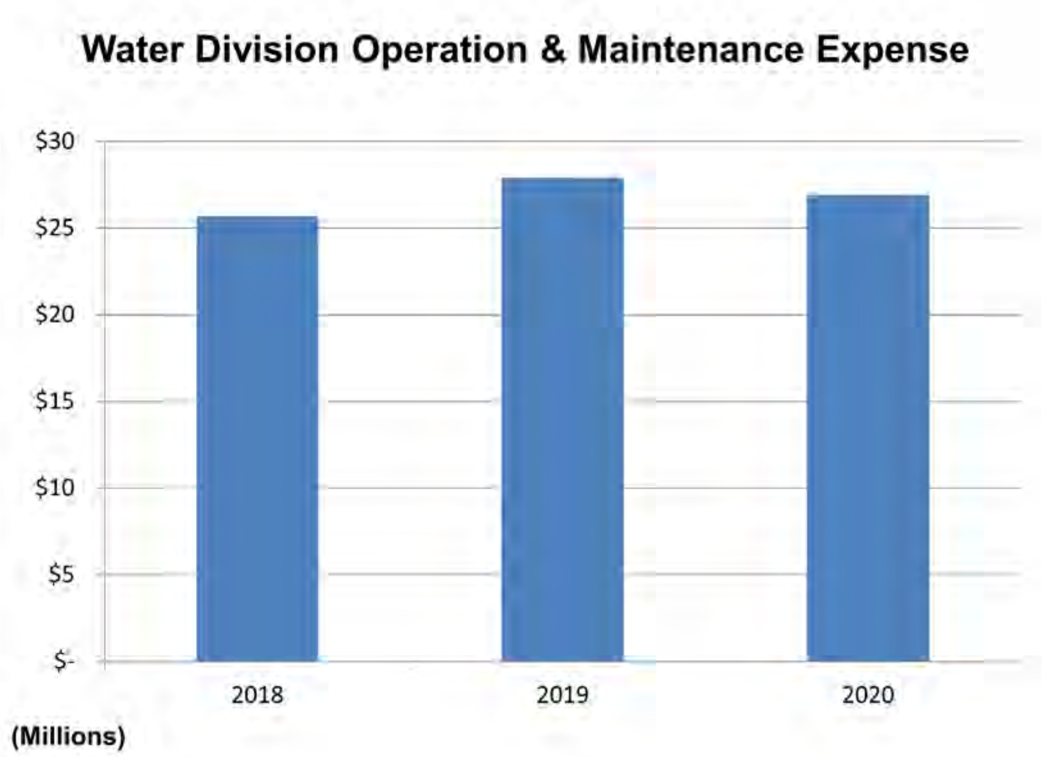
- Customer service expenses were $0.3 million higher than the prior fiscal year.

- Administrative and general expenses were $1.9 million higher than the prior fiscal year, primarily due to labor related expenses including higher pension expenses, reflecting impact of investment losses on Pension Trust assets in 2018.



- Depreciation expense was down $0.1 million, primarily due the accelerated depreciation of existing meters that are to be replaced as part of KUB's system wide deployment of advanced metering equipment and the retirement of $3.8 million of assets during fiscal year 2019.

- Taxes and tax equivalents were $0.3 million higher than the prior fiscal year due to increased plant in service levels.



Other Income and Expense

Fiscal Year 2020 Compared to Fiscal Year 2019

Interest income was consistent with the prior fiscal year.

Interest expense increased $0.3 million, reflecting the net impact of interest expense from new revenue bonds sold during the fiscal year and savings on refunding of outstanding bonds.

Other income (net) was $0.8 million lower than the prior fiscal year, primarily due to losses on disposal of property.

Capital contributions decreased $0.5 million, the result of a decrease in donated utility assets from developers compared to the previous fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Interest income increased $0.3 million from the prior fiscal year, primarily due to higher short-term interest rates.

Interest expense increased $0.5 million, reflecting the impact of interest expense from new revenue bonds sold during the fiscal year.

Other income (net) was $0.4 million higher than the prior fiscal year, primarily due to mark-to-market adjustments on investments.

Capital contributions increased $0.5 million, the result of an increase in donated utility assets from developers compared to the previous fiscal year.

Capital Assets

Capital Assets
As of June 30
(Net of Depreciation)

(in thousands of dollars)	**2020**	**2019**	**2018**
Production Plant	$ 7	$ 7	$ 57
Pumping & Treatment Plant	53,491	53,079	52,730
Distribution Plant			
Distribution Mains	$ 174,196	$ 165,540	$ 161,290
Transmission Mains	33,668	26,237	24,400
Services & Meters	40,570	36,813	31,151
Other Accounts	13,741	13,676	13,313
Total Distribution Plant	262,175	242,266	230,154
Total General Plant	$ 8,961	$ 9,265	$ 9,722
Total Water Plant	324,634	304,617	292,663
Work In Progress	38,591	36,002	25,514
Total Net Plant	$ 363,225	$ 340,619	$ 318,177

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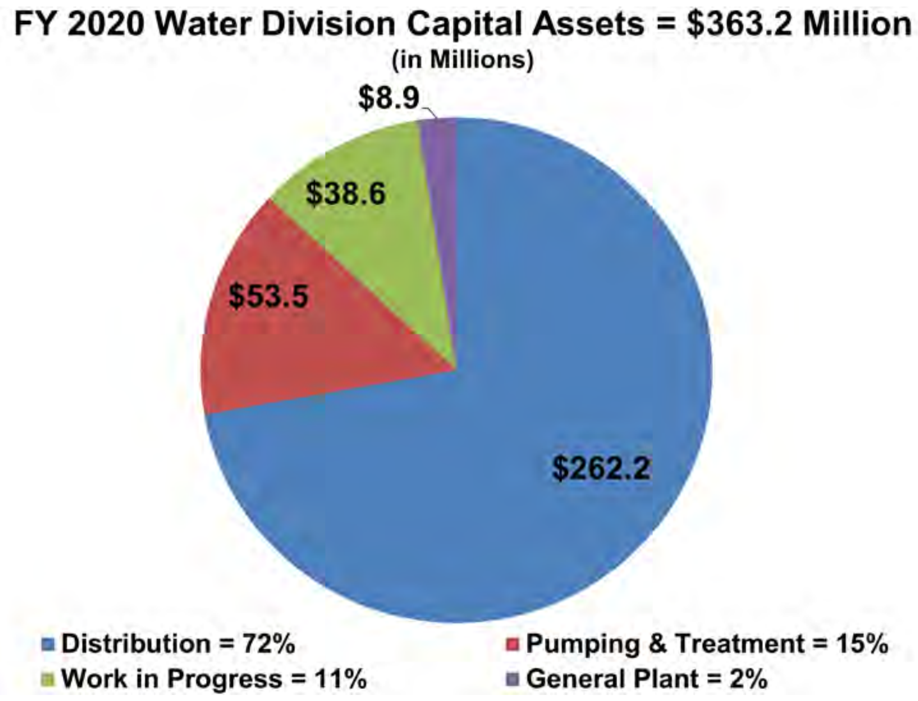
Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $363.2 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represented a net increase (including additions, retirements, and depreciation) of $22.6 million or 6.6 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $9.6 million for galvanized and cast iron water main replacement
- $8 million for water plant redundancy program
- $5.3 million for system improvements
- $3.3 million for building improvements including a new Engineering Building
- $1.9 million for deployment of advanced metering equipment

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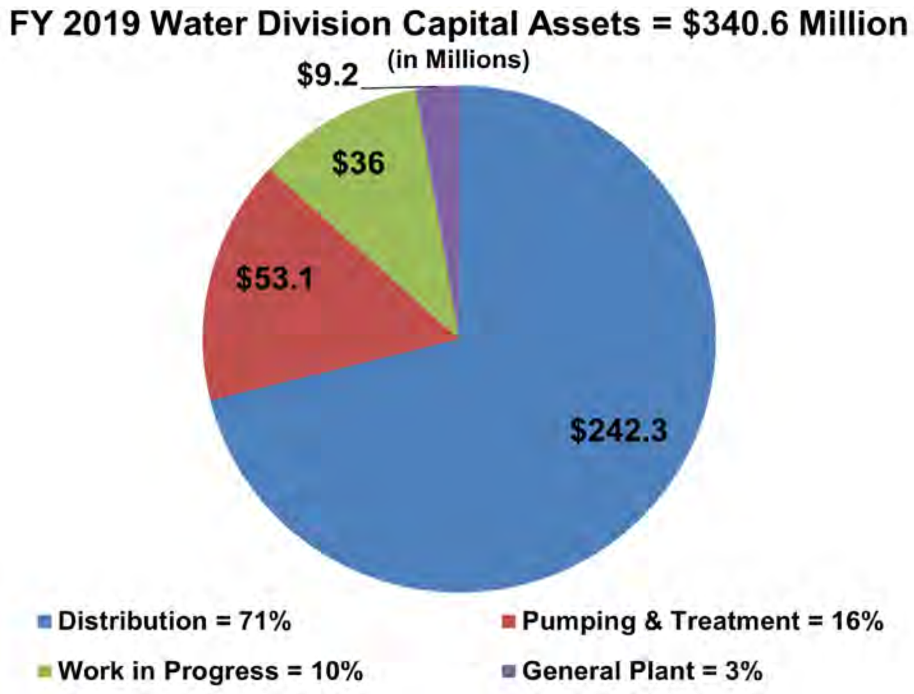
Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $340.6 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represented a net increase (including additions, retirements, and depreciation) of $22.4 million or 7.1 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $11.3 million for major plant and system improvements
- $4.7 million for galvanized and cast iron water main replacement
- $3.7 million for replacement and relocation of water system assets to accommodate TDOT highway improvement projects
- $2.9 million for deployment of advanced metering equipment

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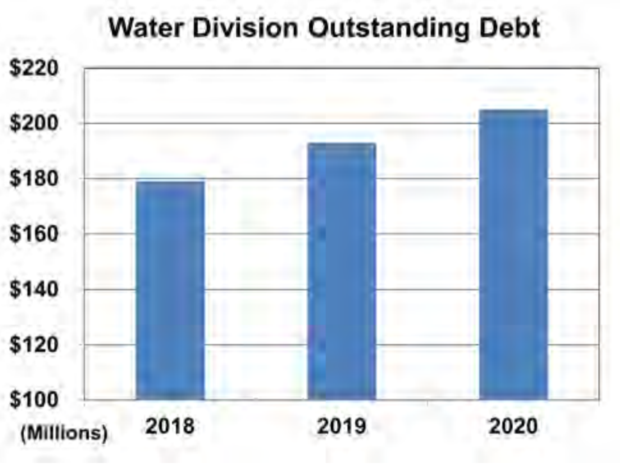
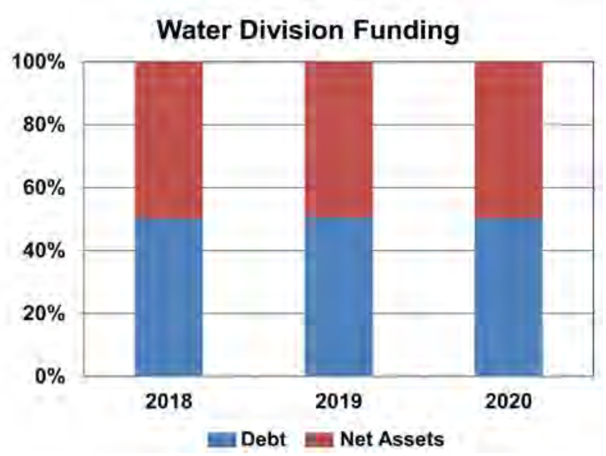
Debt Administration

As of June 30, 2020, the Water Division had $204.9 million in outstanding water system bonds. The bonds are secured solely by revenues of the Water Division. Debt as a percentage of the Division's capital structure was 50.3 percent in 2020, 50.6 percent in 2019, and 50.2 percent at the end of fiscal year 2018. KUB's Debt Management Policy limits the Division's debt ratio to 60 percent or less.

Outstanding Debt
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Revenue bonds	$ 204,890	$ 192,820	$ 179,165
Total outstanding debt	$ 204,890	$ 192,820	$ 179,165





The Division will pay $84.4 million in principal payments over the next ten years, representing 41 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 30 percent of water debt principal be repaid over the next ten years.

Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $204.9 million in outstanding debt (including the current portion of revenue bonds), compared to $192.8 million last year, an increase of $12.1 million or 6.3 percent. The increase is attributable to new revenue and refunding bonds issued during the fiscal year offset by refunded bonds and the scheduled repayment of debt. As of June 30, 2020, the Division's weighted average cost of debt was 3.47 percent.

KUB sold $20 million in water system revenue bonds in July 2019 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.79 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2049.

KUB sold $19.5 million in water system revenue refunding bonds in April 2020 for the purpose of refinancing existing water system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $3.9 million over the life of the bonds ($3.1 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.55 percent. The bonds mature over a period of 20 years with a final maturity in fiscal year 2040.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2020, the Division's revenue bonds were rated AAA by Standard & Poor's and Aa1 by Moody's Investors Service. The Standard and Poor's water rating represents the highest credit rating available from Standard and Poor's.

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $192.8 million in outstanding debt (including the current portion of revenue bonds), compared to $179.2 million last year, an increase of $13.6 million or 7.6 percent. The increase is attributable to new revenue bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2019, the Division's weighted average cost of debt was 3.55 percent.

KUB sold $20 million in water system revenue bonds in August 2018 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.46 percent.

The Division's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2019, the Division's revenue bonds were rated AAA by Standard & Poor's and Aa1 by Moody's Investors Service. The Standard and Poor's water rating represents the highest credit rating available from Standard and Poor's.

Impacts on Future Financial Position

KUB anticipates adding 410 additional water system customers during fiscal year 2021.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources. In response to the COVID-19 pandemic, the Water Division chose to forego a proposed 5% rate increase for fiscal year 2021 to reduce financial impact on its customers.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

KUB sold $9 million in water system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.36 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2050.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Water Division's portion of this contribution is $411,798. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Water Division's portion of this contribution is $476,472. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Water Division's portion of this contribution is $98,439. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Water Division's portion of this contribution is $63,579. The Plan's actuarial funded ratio is 97.68 percent.

GASB Statement No. 84, *Fiduciary Activities*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 87, *Leases*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period,* is effective for fiscal years beginning after December 15, 2020. GASB Statement No. 90, *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 91, *Conduit Debt Obligations*, is effective for fiscal years beginning after December 15, 2021. GASB Statement No. 92, *Omnibus 2020*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 93, *Replacement of Interbank Offered Rates*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*, is effective for fiscal years beginning after June 15, 2021. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division's financial position or results of operations during fiscal year 2020.

Financial Contact

The Division's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division's financial position and results of operations for the fiscal years ended June 30, 2020 and 2019. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

Knoxville Utilities Board Water Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Current assets:		
Cash and cash equivalents	$ 20,235,168	$ 12,761,344
Short-term investments	2,520,675	2,495,500
Short-term contingency fund investments	15,185,165	14,317,711
Other current assets	260,228	258,782
Accrued interest receivable	15,248	21,889
Accounts receivable, less allowance of uncollectible accounts of $50,465 in 2020 and $57,429 in 2019	6,882,121	6,482,723
Inventories	1,875,987	3,199,517
Prepaid expenses	40,937	44,002
Total current assets	47,015,529	39,581,468
Restricted assets:		
Water bond fund	4,461,568	4,415,948
Other funds	197	2,793
Total restricted assets	4,461,765	4,418,741
Water plant in service	451,529,712	431,645,921
Less accumulated depreciation	(126,895,480)	(127,028,444)
	324,634,232	304,617,477
Retirement in progress	454,552	796,715
Construction in progress	38,136,374	35,205,185
Net plant in service	363,225,158	340,619,377
Other assets:		
Net pension asset	2,485,779	-
Long-term contingency fund investments	2,712,435	3,527,433
Other	2,426,652	2,394,210
Total other assets	7,624,866	5,921,643
Total assets	422,327,318	390,541,229
Deferred outflows of resources:		
Pension outflow	1,056,001	2,242,843
OPEB outflow	543,232	324,113
Unamortized bond refunding costs	2,935,130	2,970,897
Total deferred outflows of resources	4,534,363	5,537,853
Total assets and deferred outflows of resources	$ 426,861,681	$ 396,079,082

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Water Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Liabilities, Deferred Inflows, and Net Position		
Current liabilities:		
Current portion of revenue bonds	$ 7,140,000	$ 6,445,000
Sales tax collections payable	363,281	343,619
Accounts payable	1,862,562	1,905,884
Accrued expenses	822,056	725,454
Customer deposits plus accrued interest	1,003,304	965,413
Accrued interest on revenue bonds	2,221,468	2,267,515
Total current liabilities	13,412,671	12,652,885
Other liabilities:		
Accrued compensated absences	1,753,547	1,559,945
Net pension liability	2,631	894,613
Net OPEB liability	986,628	188,207
Other	35,842	49,885
Total other liabilities	2,778,648	2,692,650
Long-term debt:		
Water revenue bonds	197,750,000	186,375,000
Unamortized premiums/discounts	7,909,293	5,847,325
Total long-term debt	205,659,293	192,222,325
Total liabilities	221,850,612	207,567,860
Deferred inflows of resources:		
Pension inflow	2,673,916	499,640
Total deferred inflows of resources	2,673,916	499,640
Total liabilities and deferred inflows of resources	224,524,528	208,067,500
Net position		
Net investment in capital assets	155,728,467	147,251,605
Restricted for:		
Debt service	2,240,100	2,148,433
Other	197	2,793
Unrestricted	44,368,389	38,608,751
Total net position	202,337,153	188,011,582
Total liabilities, deferred inflows, and net position	$ 426,861,681	$ 396,079,082

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Water Division

Statements of Revenues, Expenses and Changes in Net Position

Years Ended June 30, 2020 and 2019

	2020	2019
Operating revenues	$ 62,473,524	$ 58,073,479
Operating expenses		
Treatment	3,644,360	3,984,176
Distribution	15,175,452	15,417,999
Customer service	1,659,209	1,886,682
Administrative and general	6,397,245	6,632,782
Provision for depreciation	10,039,955	10,315,031
Taxes and tax equivalents	4,327,074	4,418,426
Total operating expenses	41,243,295	42,655,096
Operating income	21,230,229	15,418,383
Non-operating revenues (expenses)		
Contributions in aid of construction	1,298,668	860,459
Interest income	841,842	885,864
Interest expense	(7,132,413)	(6,839,885)
Amortization of debt costs	47,518	13,027
Write-down of plant for costs recovered through contributio	(1,298,668)	(860,459)
Other	(717,993)	129,874
Total non-operating revenues (expenses)	(6,961,046)	(5,811,120)
Change in net position before capital contributions	14,269,183	9,607,263
Capital contributions	56,388	563,998
Change in net position	14,325,571	10,171,261
Net position, beginning of year	188,011,582	177,840,321
Net position, end of year	$ 202,337,153	$ 188,011,582

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Water Division
Statements of Cash Flows
Years Ended June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash receipts from customers	$ 60,603,965	$ 56,627,540
Cash receipts from other operations	2,393,209	2,058,005
Cash payments to suppliers of goods or services	(15,101,087)	(17,315,860)
Cash payments to employees for services	(10,911,023)	(10,713,769)
Payment in lieu of taxes	(3,378,895)	(3,511,656)
Net cash provided by operating activities	33,606,169	27,144,260
Cash flows from capital and related financing activities:		
Net proceeds from bond issuance	21,021,438	20,225,143
Principal paid on revenue bonds	(6,845,000)	(6,340,000)
Interest paid on revenue bonds	(7,178,460)	(6,684,114)
Acquisition and construction of water plant	(35,341,943)	(33,579,785)
Changes in water bond fund, restricted	(45,620)	(365,771)
Proceeds received on disposal of plant	36,112	34,774
Cash received from developers and individuals for capital purposes	1,298,668	860,459
Net cash used in capital and related financing activities	(27,054,805)	(25,849,294)
Cash flows from investing activities:		
Purchase of investment securities	(16,862,541)	(9,965,693)
Maturities of investment securities	16,836,873	6,485,830
Interest received	884,709	864,635
Other property and investments	63,419	(68,408)
Net cash provided by (used in) investing activities	922,460	(2,683,636)
Net increase (decrease) in cash and cash equivalents	7,473,824	(1,388,670)
Cash and cash equivalents, beginning of year	12,761,344	14,150,014
Cash and cash equivalents, end of year	$ 20,235,168	$ 12,761,344
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 21,230,229	$ 15,418,383
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	10,588,166	10,806,412
Changes in operating assets and liabilities:		
Accounts receivable	(399,398)	(473,102)
Inventories	1,323,530	38,871
Prepaid expenses	3,065	(1,179)
Other assets	7,526	512,719
Sales tax collections payable	19,662	31,298
Accounts payable and accrued expenses	809,541	717,003
Customer deposits plus accrued interest	37,891	60,822
Other liabilities	(14,043)	33,033
Net cash provided by operating activities	$ 33,606,169	$ 27,144,260
Noncash capital activities:		
Acquisition of plant assets through developer contributions	$ 56,388	$ 563,998

The accompanying notes are an integral part of these financial statements.

1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. The Water Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Water Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

2. Significant Accounting Policies

Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments,* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

Recently Adopted New Accounting Pronouncements

In May 2020, the GASB issued GASB Statement No. 95 (Statement No. 95), *Postponement of the Effective Dates of Certain Authoritative Guidance.* The objective of this Statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. That objective is accomplished by postponing the effective dates of certain provisions in Statements and Implementation Guides that first became effective or are scheduled to become effective for fiscal years beginning after June 15, 2018. The requirements of this Statement are effective immediately.

Water Plant

Water plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of water plant in service is based on the estimated useful lives of the assets, which range from three to sixty-seven years, and is computed using the straight-line method. Pursuant to NARUC, the caption "Provision for depreciation" in the Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $548,211 in fiscal year 2020 and $491,381 in fiscal year 2019. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Water Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $121,068 in fiscal year 2020 and $152,993 in fiscal year 2019.

Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets, net position-restricted, and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

OPEB Plan

KUB's employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the Rule of 80 (age plus years of service) with a minimum of 20 years of service and were enrolled in medical coverage on their last day, are eligible for post-employment health care. KUB's OPEB Trust was established by KUB's Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. KUB's policy is to fully fund the annual actuarially determined contributions, which are determined by actuarial valuation. As required by GASB Statement No. 75, KUB measures net OPEB liability as total OPEB liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a June 30, 2020 and 2019 measurement date, respectively. The net OPEB liability is $7,589,447 (Division's share $986,628) as of June 30, 2020 and $1,447,742 (Division's share $188,207) as of June 30, 2019.

Pension Plan and Qualified Excess Benefit Arrangement

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The net pension asset is $19,121,375 (Division's share $2,485,779) as of June 30, 2020, and the net pension liability was $6,649,756 (Division's share $864,468) as of June 30, 2019.

KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB (Note 11). As required by GASB Statement No. 73, KUB measures the total pension liability of the QEBA. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The total pension liability of the

QEBA is $20,236 (Division’s share $2,631) as of June 30, 2020 and $231,883 (Division’s share $30,145) as of June 30, 2019.

Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer’s reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and OPEB plan investments, differences between expected and actual experience, and changes in assumptions in accordance with Statements No. 68, 73, and 75.

Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Compensated Absences

KUB accrues a liability for earned but unpaid paid time off (PTO) days.

Subsequent Events

KUB has evaluated events and transactions through October 29, 2020, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $9,045,000 in water system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding water system capital improvements in fiscal year 2021. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.36 percent. Annual debt service payments including principal and interest range from $313,539 to $470,050 with final maturity in fiscal year 2050.

Recently Issued Accounting Pronouncements

In January 2017, the GASB issued GASB Statement No. 84 (Statement No. 84), *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. Statement No. 84 is effective for fiscal years beginning after December 15, 2019.

In June 2017, the GASB issued GASB Statement No. 87 (Statement No. 87), *Leases*. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset. Statement No. 87 is effective for fiscal years beginning after June 15, 2021.

In June 2018, the GASB issued GASB Statement No. 89 (Statement No. 89), *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period, and to simplify accounting for interest cost incurred before the end of a construction period. Statement No. 89 is effective for fiscal years beginning after December 15, 2020.

In August 2018, the GASB issued GASB Statement No. 90 (Statement No. 90), *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61.* The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. Statement No. 90 is effective for fiscal years beginning after December 15, 2019.

In May 2019, the GASB issued GASB Statement No. 91 (Statement No. 91), *Conduit Debt Obligations.* The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. Statement No. 91 is effective for fiscal years beginning after December 15, 2021.

In January 2020, the GASB issued GASB Statement No. 92 (Statement No. 92), *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. Certain provisions of Statement No. 92 were effective immediately. Paragraphs 6, 7, 8, 9, and 12 are effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 93 (Statement No. 93), *Replacement of Interbank Offered Rates.* This Statement establishes accounting and financial reporting requirements related to the replacement of IBORs in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. Statement No. 93 is effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 94 (Statement No. 94), *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by improving the comparability of financial statements among governments that enter in PPPs and APAs. Statement No. 94 is effective for fiscal years beginning after June 15, 2022.

In May 2020, the GASB issued GASB Statement No. 96 (Statement No. 96), *Subscription-Based Information Technology Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by (a) establishing uniform accounting and financial reporting requirements for SBITAs; (b) improving the comparability of financial statements among governments that have entered into SBITAs; and (c) enhancing the understandability, reliability, relevance, and consistency of information about SBITAs. Statement No. 96 is effective for fiscal years beginning after June 15, 2022.

In June 2020, the GASB issued GASB Statement No. 97 (Statement No. 97), *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* The objectives of this Statement are to (a) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (b) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (c) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. Statement No. 97 is effective for fiscal years beginning after June 15, 2021.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures—an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

Interest Rate Risk. KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

Credit Risk. KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital.

Custodial Credit Risk. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by state law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

	2020	**2019**
Current assets		
Cash and cash equivalents	$ 20,235,168	$ 12,761,344
Short-term investments	2,520,675	2,495,500
Short-term contingency fund investments	15,182,861	14,317,711
Other assets		
Long-term contingency fund investments	2,660,098	3,438,870
Restricted assets		
Water bond fund	4,461,568	4,415,948
Other funds	197	2,793
	$ 45,060,567	$ 37,432,166

The above amounts do not include accrued interest of $54,641 in fiscal year 2020 and $88,563 in fiscal year 2019. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2020:

	Deposit and Investment Maturities (in Years)		
	Fair Value	Less Than 1	1-5
Supersweep NOW and Other Deposits	$ 21,341,227	$ 21,341,227	$ -
State Treasurer's Investment Pool	13,433,352	13,433,352	-
Agency Bonds	11,391,750	8,731,652	2,660,098
	$ 46,166,329	$ 43,506,231	$ 2,660,098

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase of greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2020:

- U.S. Agency bonds of $2,660,098, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

4. Accounts Receivable

Accounts receivable consists of the following:

	2020	2019
Wholesale and retail customers		
Billed services	$ 4,449,302	$ 4,172,874
Unbilled services	2,305,223	2,065,114
Other	178,061	302,164
Allowance for uncollectible accounts	(50,465)	(57,429)
	$ 6,882,121	$ 6,482,723

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5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

	2020	**2019**
Trade accounts	$ 1,862,562	$ 1,905,884
Salaries and wages	598,375	476,958
Self-insurance liabilities	223,681	248,496
	$ 2,684,618	$ 2,631,338

6. Long-Term Obligations

Long-term debt consists of the following:

	Balance June 30, 2019	**Additions**	**Payments**	**Defeased**	**Balance June 30, 2020**	**Amounts Due Within One Year**
W-2011 - 2.0 - 5.0%	$ 21,150,000	$ -	$ 550,000	$ 20,600,000	$ -	$ -
X-2012 - 3.0 - 5.0%	7,050,000	-	590,000	-	6,460,000	625,000
Y-2013 - 3.0 - 4.0%	8,070,000	-	340,000	-	7,730,000	350,000
Z-2013 - 2.0 - 5.0%	22,150,000	-	550,000	-	21,600,000	575,000
AA-2014 - 2.0 - 4.0%	7,275,000	-	175,000	-	7,100,000	175,000
BB-2015 - 2.0 - 5.0%	20,985,000	-	950,000	-	20,035,000	960,000
CC-2015 - 2.0 - 4.0%	18,450,000	-	425,000	-	18,025,000	450,000
DD-2016 - 3.0 - 5.0%	23,750,000	-	525,000	-	23,225,000	550,000
EE-2016 - 2.0 - 5.0%	20,675,000	-	1,090,000	-	19,585,000	1,155,000
FF-2017 - 3.0 - 5.0%	4,375,000	-	475,000	-	3,900,000	495,000
GG-2017 - 2.125 - 5.0%	19,420,000	-	395,000	-	19,025,000	415,000
HH-2018 - 3.0 - 5.0%	19,470,000	-	380,000	-	19,090,000	395,000
II-2019 - 3.0 - 5.0%	-	19,995,000	400,000	-	19,595,000	365,000
JJ-2020 - 3.0 - 5.0%	-	19,520,000	-	-	19,520,000	630,000
Total bonds	$ 192,820,000	$ 39,515,000	$ 6,845,000	$ 20,600,000	$ 204,890,000	$ 7,140,000
Unamortized Premium	5,847,325	2,660,942	402,958	196,016	7,909,293	-
Total long term debt	$ 198,667,325	$ 42,175,942	$ 7,247,958	$ 20,796,016	$ 212,799,293	$ 7,140,000

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	Balance June 30, 2018	Additions	Payments	Defeased	Balance June 30, 2019	Amounts Due Within One Year
U-2009 - 3.0 - 4.5%	$ 950,000	$ -	$ 950,000	$ -	$ -	$ -
W-2011 - 2.0 - 5.0%	21,700,000	-	550,000	-	21,150,000	550,000
X-2012 - 3.0 - 5.0%	7,615,000	-	565,000	-	7,050,000	590,000
Y-2013 - 3.0 - 4.0%	8,390,000	-	320,000	-	8,070,000	340,000
Z-2013 - 2.0 - 5.0%	22,675,000	-	525,000	-	22,150,000	550,000
AA-2014 - 2.0 - 4.0%	7,425,000	-	150,000	-	7,275,000	175,000
BB-2015 - 2.0 - 5.0%	21,870,000	-	885,000	-	20,985,000	950,000
CC-2015 - 2.0 - 4.0%	18,875,000	-	425,000	-	18,450,000	425,000
DD-2016 - 3.0 - 5.0%	24,250,000	-	500,000	-	23,750,000	525,000
EE-2016 - 2.0 - 5.0%	20,775,000	-	100,000	-	20,675,000	1,090,000
FF-2017 - 3.0 - 5.0%	4,840,000	-	465,000	-	4,375,000	475,000
GG-2017 - 2.125 - 5.0%	19,800,000	-	380,000	-	19,420,000	395,000
HH-2018 - 3.0 - 5.0%	-	19,995,000	525,000	-	19,470,000	380,000
Total bonds	$ 179,165,000	$ 19,995,000	$ 6,340,000	$ -	$ 192,820,000	$ 6,445,000
Unamortized Premium	5,743,978	467,809	364,462	-	5,847,325	-
Total long term debt	$ 184,908,978	$ 20,462,809	$ 6,704,462	$ -	$ 198,667,325	$ 6,445,000

Debt service over remaining term of the debt is as follows:

Fiscal Year	Total Principal	Interest	Grand Total
2021	$ 7,140,000	$ 6,962,664	$ 14,102,664
2022	7,335,000	6,824,393	14,159,393
2023	7,625,000	6,511,744	14,136,744
2024	7,910,000	6,198,693	14,108,693
2025	8,235,000	5,894,944	14,129,944
2026 - 2030	46,120,000	25,056,779	71,176,779
2031 - 2035	42,460,000	17,494,372	59,954,372
2036 - 2040	36,970,000	11,161,042	48,131,042
2041 - 2045	30,830,000	4,920,131	35,750,131
2046 - 2049	10,265,000	651,352	10,916,352
Total	$ 204,890,000	$ 91,676,114	$ 296,566,114

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The requirements for the bonds are being met through monthly deposits to the Water Bond Fund, as required by the bond covenants. As of June 30, 2020, these bond covenants had been satisfied.

During fiscal year 2019, KUB’s Water Division issued Series HH 2018 bonds to fund water system capital improvements.

During fiscal year 2020, KUB’s Water Division issued Series II 2019 bonds to fund water system capital improvements. KUB’s Water Division also issued Series JJ 2020 bonds to retire a portion of outstanding Series W 2011 bonds as follows. On May 22, 2020, $19.5 million in revenue refunding bonds with an average interest rate of 3.2 percent were issued to currently refund $20.6 million of outstanding bonds with an average interest rate of 4 percent. The net proceeds of $20.8 million (after payment of $0.2 million in issuance costs plus premium of $1.5 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 20 years by $3.9 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $3.1 million.

Other liabilities consist of the following:

	Balance June 30, 2019	**Increase**	**Decrease**	**Balance June 30, 2020**
Accrued compensated absences	$ 1,559,945	$ 2,480,441	$ (2,286,839)	$ 1,753,547
Other	49,885	74,105	(88,148)	35,842
	$ 1,609,830	$ 2,554,546	$ (2,374,987)	$ 1,789,389

	Balance June 30, 2018	**Increase**	**Decrease**	**Balance June 30, 2019**
Accrued compensated absences	$ 1,515,405	$ 2,623,467	$ (2,578,927)	$ 1,559,945
Other	16,852	81,879	(48,846)	49,885
	$ 1,532,257	$ 2,705,346	$ (2,627,773)	$ 1,609,830

7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

2021	$ 37,730
2022	13,703
2023	2,026
2024	1,783
2025	1,783
Total operating minimum lease payments	$ 57,025

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8. Capital Assets

Capital asset activity was as follows:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Production Plant	$ 727,863	$ -	$ -	$ 727,863
Pumping & Treatment Plant	87,716,345	3,211,555	(748,488)	90,179,412
Distribution Plant				
Distribution Mains	202,473,173	12,223,598	(2,661,562)	212,035,209
Transmission Mains	35,242,896	8,154,901	(282,002)	43,115,795
Services & Meters	49,554,143	5,362,127	(6,349,660)	48,566,610
Other Accounts	27,075,049	886,655	(550,980)	27,410,724
Total Distribution Plant	$ 314,345,261	$ 26,627,281	$ (9,844,204)	$ 331,128,338
Total General Plant	28,856,452	1,101,522	(463,875)	29,494,099
Total Water Plant	$ 431,645,921	$ 30,940,358	$ (11,056,567)	$ 451,529,712
Less Accumulated Depreciation	(127,028,444)	(10,596,213)	10,729,177	(126,895,480)
Net Plant Assets	$ 304,617,477	$ 20,344,145	$ (327,390)	$ 324,634,232
Work In Progress	36,001,900	34,212,147	(31,623,121)	38,590,926
Total Net Plant	$ 340,619,377	$ 54,556,292	$ (31,950,511)	$ 363,225,158

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
Production Plant	$ 727,863	$ -	$ -	$ 727,863
Pumping & Treatment Plant	84,704,278	3,221,112	(209,045)	87,716,345
Distribution Plant				
Distribution Mains	196,587,374	7,202,772	(1,316,973)	202,473,173
Transmission Mains	33,301,968	2,483,590	(542,662)	35,242,896
Services & Meters	42,680,113	8,252,605	(1,378,575)	49,554,143
Other Accounts	25,981,224	1,164,600	(70,775)	27,075,049
Total Distribution Plant	$ 298,550,679	$ 19,103,567	$ (3,308,985)	$ 314,345,261
Total General Plant	28,217,439	966,769	(327,756)	28,856,452
Total Water Plant	$ 412,200,259	$ 23,291,448	$ (3,845,786)	$ 431,645,921
Less Accumulated Depreciation	(119,537,309)	(10,815,514)	3,324,379	(127,028,444)
Net Plant Assets	$ 292,662,950	$ 12,475,934	$ (521,407)	$ 304,617,477
Work In Progress	25,514,290	31,598,956	(21,111,346)	36,001,900
Total Net Plant	$ 318,177,240	$ 44,074,890	$ (21,632,753)	$ 340,619,377

9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2020 and June 30, 2019, the amount of these liabilities was $223,681 and $248,496, respectively, resulting from the following changes:

	2020	2019
Balance, beginning of year	$ 248,496	$ 236,949
Current year claims and changes in estimates	1,939,659	2,233,278
Claims payments	(1,964,474)	(2,221,731)
Balance, end of year	$ 223,681	$ 248,496

10. Pension Plan

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	2018
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $336,157 and $410,366 are attributable to the Water Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

Net Pension Liability

The below summarizes the disclosures of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the net pension asset at June 30, 2020 is $2,485,779, and the net pension liability at June 30, 2019 is $864,468.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

	2019	**2018**
Total pension liability	$ 226,818,557	$ 212,157,951
Plan fiduciary net position	(245,939,932)	(205,508,195)
Plan's net pension liability (asset)	$ (19,121,375)	$ 6,649,756
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%

Changes in Net Pension Liability are as follows:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at December 31, 2018	$ 212,157,951	$ 205,508,195	$ 6,649,756
Changes for the year:			
Service cost	6,142,213	-	6,142,213
Interest	16,030,626	-	16,030,626
Changes of Benefits	163,199	-	163,199
Differences between Expected and Actual Experience	(1,054,117)	-	(1,054,117)
Changes of Assumptions	8,473,160	-	8,473,160
Contributions - employer	-	2,871,241	(2,871,241)
Contributions - rollovers	-	3,167,836	(3,167,836)
Contributions - member	-	2,989	(2,989)
Net investment income	-	49,951,894	(49,951,894)
Benefit payments	(15,094,475)	(15,094,475)	-
Administrative expense	-	(467,748)	467,748
Net changes	14,660,606	40,431,737	(25,771,131)
Balances at December 31, 2019	$ 226,818,557	$ 245,939,932	$ (19,121,375)

Actuarial Assumptions
The total pension liability was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	January 1, 2019, rolled forward to December 31, 2019; January 1, 2018, rolled forward to December 31, 2018
Discount rate	7.25% as of December 31, 2019; 7.50% as of December 31, 2018
Salary increase	From 2.50% to 5.65%, based on years of service as of December 31, 2019; from 2.80% to 5.15%, based on years of service as of December 31, 2018
Mortality	115% and 110% of the PubG-2010 table, for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully

	generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019; 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on an actuarial experience study covering the period January 1, 2014 through December 31, 2018. The discount rate was subsequently reduced from 7.5 percent to 7.25 percent as of the December 31, 2019 measurement date. The Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), effective January 1, 2020.

The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2019 and 2018 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

	Long Term Expected Real Rate of Return	
Asset Class	**2019**	**2018**
Domestic equity	5.5%	5.8%
Non-U.S. equity	6.4%	6.9%
Real estate equity	5.9%	6.0%
Debt securities	1.5%	1.7%
Cash and deposits	0.6%	0.7%

Discount rate

The discount rate used to measure the total pension liability was 7.25 percent as of December 31, 2019, and 7.5 percent as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate
The following presents the net pension liability of the Plan as of December 31, 2019, calculated using the discount rate of 7.25 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.25 percent) or one percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Plan's net pension liability (surplus)	$ 946,692	$ (19,121,375)	$ (36,452,396)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of $2,673,376 (Division's share $347,539).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5.00 years. During the measurement year, there was an experience gain of $1,054,117, with $210,822 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $843,295 (Division's share $109,628). Unrecognized experience gains from prior periods were $2,408,388, of which $1,163,381 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,245,007 (Division's share $161,851).

During the measurement year, there was an assumption change loss of $8,473,160, with $1,694,632 of that recognized in the current year and each of the next four years, resulting in a deferred outflow of $6,778,528 (Division's share $881,209). Unrecognized assumption change decreases from prior periods were $1,387,733, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $729,629 (Division's share $94,852).

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The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $34,889,331, of which $6,977,866 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment losses from prior periods were $15,614,774, of which $5,418,519 was recognized as an increase in pension expense in the current year. The combination of unrecognized investment gains this year along with the net unrecognized investment losses from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2019 of $17,715,210 (Division's share $2,302,977). The following table summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $1,292,915 (Division's share $168,079) at June 30, 2020 for employer contributions made between December 31, 2019 and June 30, 2020.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,088,302
Changes in assumptions	6,778,528	729,629
Net difference between projected and actual earnings on pension plan investments	-	17,715,210
Contributions subsequent to measurement date	1,292,915	-
Total	$ 8,071,443	$ 20,533,141
Division's share	$ 1,049,288	$ 2,669,308

$1,292,915 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ (4,595,539)
2022	(3,722,647)
2023	57,633
2024	(5,494,060)
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $4,128,608 (Division's share $536,719).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5.00 years. During the measurement year, there was an experience gain of $605,649, with $121,129 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $484,520 (Division's share $62,988). Unrecognized experience gains from prior periods were $2,966,120, of which $1,042,251 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,923,868 (Division's share $250,103).

During the measurement year, there were no benefit changes or assumption changes. Unrecognized assumption change decreases from prior periods were $2,045,837, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,387,733 (Division's share $180,405).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $28,364,098, of which $5,672,818 was recognized in the current year and an identical amount will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $8,925,385, of which $1,848,878 was recognized as a decrease in pension expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2018 of $15,614,774 (Division's share $2,029,921).

The following table summarizes the current balances of deferred outflows and deferred inflows of resources. In addition, KUB recorded a deferred outflow of resources of $1,578,332 (Division's share $205,183) at June 30, 2019 for employer contributions made between December 31, 2018 and June 30, 2019.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,408,388
Changes in assumptions	-	1,387,733
Net difference between projected and actual earnings on pension plan investments	15,614,774	-
Contributions subsequent to measurement date	1,578,332	-
Total	$ 17,193,106	$ 3,796,121
Division's share	$ 2,235,104	$ 493,496

11. Qualified Excess Benefit Arrangement

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $2,631 at June 30, 2020, and $30,145 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease)	
	Total Pension Liability	
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions
The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate
The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate
The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $25,883). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $4). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $2,818) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $711) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $28,375). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $1,387). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $1,790) and a deferred outflow of $29,385 (Division's share $3,820) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $791).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445
Division's share	$ 6,713	$ 4,608

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $791). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $3,841). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $3,757). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,067).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $2,387). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $5,730). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $942).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 7,739	$ 6,144

12. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the "401(k) Plan") is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) plan's assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of 3 percent to 6 percent, depending on years of service, whether they contribute or not.

KUB funded 401(k) matching contributions and nonelective contributions of $2,469,273 (Division's share $321,006) and $2,410,201 (Division's share $313,326), respectively, for the years ended June 30, 2020 and 2019.

13. Other Post-Employment Benefits (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (the OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	**2019**
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	**Target Allocation**
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division's share $40,472). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

Net OPEB Liability

The below summarizes the disclosures of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"), which requires measurement of the net OPEB liability as total OPEB liability less the amount of the Trust's fiduciary net position. The amounts reported as of June 30 are based on the reporting date for the KUB Other Post-Employment Benefits Plan which is June 30. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and 2019 and the Total OPEB Liability as of the valuation date, January 1, 2019 updated to June 30, 2020, and January 1, 2018 updated to June 30, 2019, respectively. The Division's share of the total net OPEB liability was $986,628 at June 30, 2020 and $188,207 at June 30, 2019. There was one significant event between the valuation date and the measurement date for June 30, 2020 where the discount rate was reduced from 7.5% to 7.25%.

The components of the net OPEB liability of the Trust are as follows as of June 30:

	2020	**2019**
Total OPEB liability	$ 54,544,240	$ 50,197,938
Plan fiduciary net position	46,954,793	48,750,196
Net OPEB liability	$ 7,589,447	$ 1,447,742
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%

Changes in Net OPEB Liability are as follows:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB Liability (Asset) (a) - (b)
Balances at June 30, 2019	$ 50,197,938	$ 48,750,196	$ 1,447,742
Changes for the year:			
Service cost	256,270	-	256,270
Interest	3,672,291	-	3,672,291
Changes of Benefits	(202,408)	-	(202,408)
Differences between Expected and Actual Experience	43,902	-	43,902
Changes of Assumptions	3,604,843	-	3,604,843
Contributions - employer	-	311,324	(311,324)
Contributions - member	-	-	-
Net investment income	-	975,155	(975,155)
Benefit payments	(3,028,596)	(3,028,596)	-
Administrative expense	-	(53,286)	53,286
Net changes	4,346,302	(1,795,403)	6,141,705
Balances at June 30, 2020	$ 54,544,240	$ 46,954,793	$ 7,589,447

Actuarial assumptions

The total OPEB liability was determined by actuarial valuations, using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation dates:	January 1, 2019, updated to June 30, 2020; January 1, 2018, updated to June 30, 2019
Discount rate:	7.25% as of January 1, 2019; 7.5% as of January 1, 2018
Healthcare cost trend rates:	Pre-Medicare: 7.83% grading down to 4.50% over 19 years as of January 1, 2019; 8.00% grading down to 4.50% over 20 years as of January 1, 2018 Medicare: 6.88% grading down to 4.50% over 19 years as of January 1, 2019; 7.00% grading down to 4.50% over 20 years as of January 1, 2018 Administrative expenses: 3.0% per year

Salary increases:	From 2.50% to 5.65%, based on years of service as of January 1, 2019; From 2.80% to 5.15%, based on years of service as of January 1, 2018
Mortality:	115% and 110% of the Public Sector Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table (PubG-2010) for ages prior to the start of the Health Annuitant Mortality Table, both projected using scale MP2018 fully generational as of January 1, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of January 1, 2018
Inflation:	2.5% as of January 1, 2019; 2.8% as of January 1, 2018

The actuarial assumptions used in the January 1, 2019 and January 1, 2018 valuations were based on the results of actuarial experience studies for the periods January 1, 2014 through December 31, 2018 and January 1, 2009 through December 31, 2013, respectively. The discount rate was subsequently reduced to 7.25 percent from 7.50 percent as of January 1, 2020; therefore, the new rate was used to calculate the OPEB liability as of June 30, 2020.

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Trust investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return may be lower in periods of current strong performance due to future valuations that mean revert to the long-term average. Best estimates of arithmetic real rates of return for each major asset class included in the Trust’s target asset allocation (see the discussion of the Trust’s Investment Policy) are summarized in the chart below.

	Long Term Expected Real Rate of Return	
Asset Class	**2020**	**2019**
Domestic equity	5.4%	5.5%
International equity	6.4%	6.4%
Real estate equity	5.8%	5.9%
Debt securities	0.2%	1.5%
Cash and deposits	(0.2%)	0.6%

Discount rate

The discount rate used to measure the total OPEB liability was 7.25 percent and 7.5 percent as of June 30, 2020 and 2019, respectively. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on Trust investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the net OPEB liability to changes in the discount rate.
The following presents the net OPEB liability of the Trust as of June 30, 2020, calculated using the discount rate of 7.25 percent, as well as what the Trust's net OPEB liability would be if it were calculated using a discount rate that is 1 percent lower (6.25 percent) or 1 percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Net OPEB liability	$ 12,643,555	$ 7,589,447	$ 3,282,461

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.
The following presents the net OPEB liability of the Trust as of June 30, 2020, as well as what the Trust's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1 percent lower or 1 percent higher than the current rate:

	1% Decrease	**Baseline Trends**	**1% Increase**
Net OPEB liability	$ 2,482,856	$ 7,589,447	$ 13,485,387

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2020, KUB recognized OPEB expense of $4,767,499 (Division's share $619,775).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $43,902, with $21,951 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $21,951 (Division's share $2,854). Unrecognized experience losses from prior periods were $499,549, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were benefit changes that decreased the expense by $202,408. There was an increase in the Total OPEB Liability due to assumption changes of $3,604,843, with $1,802,422 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,802,421 (Division's share $234,314). Unrecognized assumption changes from prior periods were $1,615,800, of which the entire amount is recognized as an increase in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $2,579,092, of which $515,818 was recognized in the current year and will be recognized in each of the next four years, resulting in a deferred outflow of resources as of June 30, 2020 of $2,063,274 (Division's share $268,226). Net unrecognized investment losses from prior periods were $377,831, of which $86,767 was recognized as an increase in OPEB expense in the current year and resulting in a net deferred outflow of $291,064 (Division's share $37,838). The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 21,951	$ -
Changes in assumptions	1,802,421	-
Net difference between projected and actual earnings on OPEB plan investments	2,354,338	-
Total	$ 4,178,710	$ -
Division's share	$ 543,232	$ -

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:	
2021	$ 2,426,957
2022	602,586
2023	633,347
2024	515,820
2025	-
Thereafter	-

For the year ended June 30, 2019, KUB recognized OPEB expense of $3,046,377 (Division's share $396,029).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $999,098, with $499,549 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $499,549 (Division's share $64,941). Unrecognized experience losses from prior periods were $662,384, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were no benefit changes. There was an increase in the Total OPEB Liability due to assumption changes of $3,231,601, with $1,615,801 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,615,800 (Division's share $210,054). Unrecognized assumption changes from prior periods were ($198,590), of which the entire amount is recognized as a decrease in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $587,645, of which $117,529 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $123,047, of which $30,762 was recognized as a decrease in OPEB expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on OPEB plan investments as of June 30, 2019 of $377,831 (Division's share $49,118). The following table summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 499,549	$ -
Changes in assumptions	1,615,800	-
Net difference between projected and actual earnings on OPEB plan investments	377,831	-
Total	$ 2,493,180	$ -
Division's share	$ 324,113	$ -

14. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2020 and 2019 are summarized as follows:

	2020	**2019**
City of Knoxville		
Amounts billed by the Division for utilities and related services	$ 5,052,837	$ 4,755,382
Payments by the Division in lieu of property tax	3,378,895	3,511,656
Payments by the Division for services provided	296,940	292,759
Other divisions of KUB		
Amounts billed to other divisions for utilities and related services provided	432,749	421,675
Interdivisional rental expense	586,708	232,903
Interdivisional rental income	158,605	96,590
Amounts billed to the Division by other divisions for utilities services provided	3,404,830	3,089,267

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were as follows:

	2020	**2019**
Accounts receivable	$ 397,575	$ 406,848

15. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

16. Risks and Uncertainties

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation as federal, state, and local governments react to the public health crisis, creating significant uncertainties in the economy. This situation is rapidly changing, and additional impacts may arise. While the disruption is currently expected to be temporary, there is uncertainty around its duration. The ultimate future impact, if any, of the pandemic on results of operations, financial position, liquidity or capital resources cannot be reasonably estimated at this time.

Knoxville Utilities Board Water Division
Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31					
	2019	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability						
Service cost	$ 6,142,213	$ 5,095,488	$ 4,607,486	$ 4,226,985	$ 4,157,062	$ 4,092,808
Interest	16,030,626	15,344,193	15,015,282	14,966,559	14,812,784	14,698,657
Changes of benefit terms	163,199	-	-	-	-	-
Differences between expected and actual experience	(1,054,117)	(605,649)	(1,087,161)	(2,233,762)	(1,890,334)	-
Changes of assumptions	8,473,160	-	(357,633)	(2,932,883)	-	-
Benefit payments, including refunds of member contributions	(15,094,475)	(15,274,814)	(14,969,979)	(14,138,511)	(15,350,926)	(15,533,167)
Net change in total pension liability	14,660,606	4,559,218	3,207,995	(111,612)	1,728,586	3,258,298
Total pension liability - beginning	212,157,951	207,598,733	204,390,738	204,502,350	202,773,764	199,515,466
Total pension liability - ending (a)	$ 226,818,557	$ 212,157,951	$ 207,598,733	$ 204,390,738	$ 204,502,350	$ 202,773,764
Plan fiduciary net position						
Contributions - employer	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contributions - participants	3,170,825	2,081,125	1,488,632	555,075	487,546	475,854
Net investment income	49,938,315	(11,748,396)	32,360,219	13,788,263	(95,430)	22,292,369
Other additions	13,579	62,616	82,239	45,848	30,879	29,733
Benefit payments, including refunds of member contributions	(15,030,475)	(15,174,814)	(14,895,979)	(14,044,511)	(15,274,926)	(15,405,167)
Administrative expense	(467,748)	(445,916)	(385,282)	(441,332)	(397,160)	(378,085)
Death benefits	(64,000)	(100,000)	(74,000)	(94,000)	(76,000)	(128,000)
Net change in plan fiduciary net position**	40,431,737	(21,868,910)	22,862,426	5,052,489	(9,333,204)	12,795,245
Plan fiduciary net position - beginning**	205,508,195	227,377,105	204,514,679	199,462,190	208,795,394	196,000,149
Plan fiduciary net position - ending (b)**	$ 245,939,932	$ 205,508,195	$ 227,377,105	$ 204,514,679	$ 199,462,190	$ 208,795,394
Plan's net pension liability - ending (a) - (b)	$ (19,121,375)	$ 6,649,756	$ (19,778,372)	$ (123,941)	$ 5,040,160	$ (6,021,630)
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%	109.53%	100.06%	97.54%	102.97%
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Plan's net pension liability as a percentage of covered payroll	(47.48%)	15.78%	(45.67%)	(0.28%)	11.34%	(13.66%)

Notes to Schedule:

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

Knoxville Utilities Board Water Division
Required Supplementary Information – Schedule of Employer Pension Contributions
June 30, 2020

	*Year ended December 31 2019	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contribution in relation to the actuarially determined contribution	2,871,241	3,456,475	4,286,597	5,243,146	5,991,887	5,908,541
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Contributions as a percentage of covered payroll	7.13%	8.20%	9.90%	11.80%	13.48%	13.41%

Notes to Schedule:

Timing:	Actuarially determined contributions for a Plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior Plan years.
Valuation Dates:	January 1, 2018 and January 1, 2017

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Individual entry age
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 23 years remaining (24 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative.
Discount rate:	7.5%
Salary increases:	2.80% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014. Please refer to prior year's audited financial statements for prior methods and assumptions.

Knoxville Utilities Board Water Division
Required Supplementary Information – Schedule of Changes in Net OPEB Liability and Related Ratios
June 30, 2020

	*Year ended June 30		
	2020	2019	2018
Total OPEB liability			
Service cost	$ 256,270	$ 270,515	$ 202,603
Interest	3,672,291	3,624,737	3,295,240
Change of benefit terms	(202,408)	-	-
Differences between expected and actual experience	43,902	999,098	1,324,769
Changes of assumptions	3,604,843	3,231,601	(397,180)
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Net change in total OPEB liability	4,346,302	4,593,507	1,126,693
Total OPEB liability - beginning	50,197,938	45,604,431	44,477,738
Total OPEB liability - ending (a)	$ 54,544,240	$ 50,197,938	$ 45,604,431
Plan fiduciary net position			
Contributions - employer	$ 311,324	$ -	$ -
Net investment income	975,155	2,981,928	3,705,473
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Administrative expense	(53,286)	(54,787)	(51,668)
Net change in plan fiduciary net position	(1,795,403)	(605,303)	355,066
Plan fiduciary net position - beginning	48,750,196	49,355,499	49,000,433
Plan fiduciary net position - ending (b)	$ 46,954,793	$ 48,750,196	$ 49,355,499
Net OPEB liability (asset) - ending (a) - (b)	$ 7,589,447	$ 1,447,742	$ (3,751,068)
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%	108.23%
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Net OPEB liability (asset) as a percentage of covered employee payroll	32.48%	5.95%	(15.84%)

Notes to Schedule:

* Information not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.

Knoxville Utilities Board Water Division
Required Supplementary Information – Schedule of Employer OPEB Contributions
June 30, 2020

	*Year ended June 30 2020	2019	2018
Actuarially determined contribution	$ 311,324	$ -	$ -
Contribution in relation to the annual required contribution	311,324	-	-
Contribution deficiency/(excess)	$ -	$ -	$ -
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Contributions as a percentage of covered employee payroll	1.33%	0.00%	0.00%

Notes to Schedule:

Valuation Date:	January 1, 2018 and January 1, 2017
Timing:	Actuarially determined contribution rates are calculated based on the actuarial valuation completed 18 months before the beginning of the fiscal year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Entry age normal
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 18 years remaining as of January 1, 2018 (19 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative
Discount rate:	7.5%
Healthcare cost trend rate:	Pre-Medicare: 8% grading down to 4.5% over 20 years as of January 1, 2018; 7.83% to 4.5% over 19 years as of January 1, 2017 Medicare: 7% grading down to 4.5% over 20 years as of January 1, 2018; 6.88% to 4.5% over 19 years as of January 1, 2017 Administrative expenses: 3.0% per year
Salary increases:	From 2.8% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%
Investment rate of return:	7.5%
Retirement age:	2% at ages 50-57 at January 1, 2018 and January 1, 2017, respectively, grading up to 100% at age 70

* Schedule of Employer Contribution information is not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.
Please refer to prior year's audited financial statement for prior methods and assumptions.

Knoxville Utilities Board Water Division
Required Supplementary Information – Qualified Governmental Excess Benefit Arrangement
Schedule of Changes in Total Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31			
	2019	2018	2017	2016
Total pension liability				
Service cost	$ -	$ 941	$ 584	$ -
Interest (includes interest on service cost)	9,181	9,676	7,535	-
Changes of benefit terms	(218,272)	-	-	185,077
Differences between expected and actual experience	34	(36,125)	13,684	-
Changes of assumptions	13,342	(22,950)	73,461	-
Benefit payments, including refunds of member contributions	(15,932)	-	-	-
Net change in total pension liability	(211,647)	(48,458)	95,264	185,077
Total pension liability - beginning	231,883	280,341	185,077	-
Total pension liability - ending	$ 20,236	$ 231,883	$ 280,341	$ 185,077
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747
Total pension liability as a percentage of covered payroll	0.05%	0.55%	0.65%	0.42%

Notes to Schedule:

* There are no assets accumulated in a trust that meet the criteria in paragraph 4 of GASB 73 to pay related benefits.

Knoxville Utilities Board Water Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

Continued on Next Page

	X-2012		Y-2013		Z-2013		AA-2014		BB-2015		CC-2015	
FY	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**
20-21	625,000	235,500	350,000	235,400	575,000	947,375	175,000	243,250	960,000	680,200	450,000	650,406
21-22	655,000	204,250	375,000	221,400	600,000	930,125	175,000	238,000	1,000,000	661,000	475,000	632,406
22-23	670,000	184,600	400,000	210,150	625,000	912,125	200,000	231,000	1,050,000	611,000	475,000	613,406
23-24	690,000	164,500	415,000	198,150	625,000	893,375	200,000	223,000	1,110,000	558,500	500,000	599,156
24-25	710,000	143,800	435,000	185,700	650,000	874,625	200,000	215,000	1,170,000	503,000	525,000	587,906
25-26	735,000	120,725	450,000	172,650	675,000	852,688	225,000	209,000	1,210,000	467,900	550,000	574,782
26-27	765,000	95,000	470,000	159,150	700,000	828,219	225,000	202,250	1,245,000	428,575	550,000	560,344
27-28	790,000	64,400	1,250,000	145,050	750,000	800,219	225,000	195,500	1,260,000	385,000	575,000	543,844
28-29	820,000	32,800	1,300,000	107,550	775,000	770,219	250,000	188,750	1,275,000	340,900	600,000	526,594
29-30			2,285,000	68,550	800,000	738,250	250,000	181,250	1,315,000	296,275	625,000	508,594
30-31					825,000	704,250	275,000	173,438	2,740,000	256,825	650,000	489,063
31-32					850,000	669,188	275,000	164,844	2,800,000	174,625	675,000	467,938
32-33					900,000	632,000	300,000	155,906	2,900,000	90,625	700,000	446,000
33-34					925,000	591,500	300,000	146,156			725,000	418,000
34-35					950,000	549,875	325,000	136,032			750,000	389,000
35-36					1,000,000	507,125	325,000	124,656			775,000	359,000
36-37					1,025,000	460,875	350,000	113,282			800,000	330,906
37-38					1,075,000	413,469	350,000	101,031			825,000	301,906
38-39					1,100,000	363,750	375,000	88,781			875,000	272,000
39-40					1,150,000	308,750	375,000	75,656			900,000	237,000
40-41					1,200,000	251,250	400,000	62,531			925,000	201,000
41-42					1,225,000	191,250	425,000	48,031			975,000	164,000
42-43					1,275,000	130,000	450,000	32,625			1,000,000	125,000
43-44					1,325,000	66,250	450,000	16,313			1,050,000	85,000
44-45											1,075,000	43,000
45-46												
46-47												
47-48												
48-49												
	6,460,000	$ 1,245,575	$ 7,730,000	$ 1,703,750	$ 21,600,000	$ 14,386,752	$ 7,100,000	$ 3,566,282	$ 20,035,000	$ 5,454,425	$ 18,025,000	$ 10,126,251

Knoxville Utilities Board Water Division

Supplemental Information - Schedule of Debt Maturities by Fiscal Year

June 30, 2020

Continued from Previous Page

	DD-2016		EE-2016		FF-2017		GG-2017		HH-2018	
FY	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
20-21	550,000	744,750	1,155,000	520,644	495,000	162,300	415,000	648,806	395,000	695,313
21-22	575,000	717,250	1,245,000	462,894	510,000	147,450	440,000	628,056	410,000	683,462
22-23	625,000	688,500	1,315,000	400,644	530,000	127,050	460,000	606,056	430,000	662,963
23-24	650,000	657,250	1,380,000	334,894	550,000	105,850	485,000	583,056	440,000	650,062
24-25	675,000	624,750	1,435,000	307,294	575,000	78,350	505,000	558,806	465,000	628,063
25-26	700,000	604,500	1,460,000	278,594	605,000	49,600	530,000	533,556	485,000	604,813
26-27	725,000	583,500	1,515,000	249,394	635,000	25,400	555,000	512,356	510,000	580,562
27-28	750,000	561,750	1,560,000	219,094			575,000	490,156	535,000	555,063
28-29	775,000	539,250	1,605,000	187,894			590,000	477,938	555,000	539,013
29-30	800,000	516,000	1,645,000	155,794			600,000	464,662	570,000	522,362
30-31	825,000	492,000	1,710,000	120,838			625,000	440,663	590,000	504,550
31-32	825,000	467,250	1,750,000	82,362			650,000	415,662	605,000	485,375
32-33	850,000	442,500	1,810,000	42,988			675,000	389,662	625,000	464,956
33-34	900,000	417,000					695,000	369,413	645,000	444,644
34-35	925,000	390,000					715,000	348,563	670,000	423,681
35-36	950,000	362,250					740,000	327,112	690,000	401,906
36-37	975,000	333,750					760,000	304,913	710,000	379,481
37-38	1,000,000	304,500					785,000	282,112	735,000	356,406
38-39	1,025,000	274,500					805,000	258,562	760,000	331,600
39-40	1,050,000	243,750					830,000	234,413	785,000	305,950
40-41	1,100,000	212,250					855,000	208,475	815,000	274,550
41-42	1,125,000	179,250					885,000	181,756	850,000	241,950
42-43	1,150,000	145,500					910,000	154,100	885,000	207,950
43-44	1,200,000	111,000					940,000	125,662	920,000	172,550
44-45	1,225,000	75,000					970,000	96,288	950,000	140,350
45-46	1,275,000	38,250					1,000,000	65,976	985,000	107,100
46-47							1,030,000	33,476	1,020,000	72,625
47-48									1,055,000	36,925
48-49										
	$ 23,225,000	$ 10,726,250	$ 19,585,000	$ 3,363,328	$ 3,900,000	$ 696,000	$ 19,025,000	$ 9,740,256	$ 19,090,000	$ 11,474,225

Knoxville Utilities Board Water Division
Supplemental Information - Schedule of Debt Maturities by Fiscal Year
June 30, 2020

Continued from Previous Page

	II-2019		JJ-2020		TOTAL		Grand
FY	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Total**
20-21	365,000	685,050	630,000	513,670	7,140,000	6,962,664	14,102,664
21-22	380,000	666,800	495,000	631,300	7,335,000	6,824,393	14,159,393
22-23	400,000	647,800	445,000	616,450	7,625,000	6,511,744	14,136,744
23-24	420,000	627,800	445,000	603,100	7,910,000	6,198,693	14,108,693
24-25	440,000	606,800	450,000	580,850	8,235,000	5,894,944	14,129,944
25-26	465,000	584,800	460,000	558,350	8,550,000	5,611,958	14,161,958
26-27	485,000	561,550	465,000	535,350	8,845,000	5,321,650	14,166,650
27-28	510,000	537,300	465,000	512,100	9,245,000	5,009,476	14,254,476
28-29	535,000	511,800	470,000	488,850	9,550,000	4,711,558	14,261,558
29-30	565,000	485,050	475,000	465,350	9,930,000	4,402,137	14,332,137
30-31	590,000	456,800	480,000	441,600	9,310,000	4,080,027	13,390,027
31-32	615,000	433,200	475,000	427,200	9,520,000	3,787,644	13,307,644
32-33	635,000	414,750	470,000	412,950	9,865,000	3,492,337	13,357,337
33-34	655,000	395,700	1,965,000	398,850	6,810,000	3,181,263	9,991,263
34-35	675,000	376,050	1,945,000	339,900	6,955,000	2,953,101	9,908,101
35-36	695,000	355,800	1,925,000	281,550	7,100,000	2,719,399	9,819,399
36-37	715,000	334,950	1,900,000	223,800	7,235,000	2,481,957	9,716,957
37-38	735,000	313,500	1,880,000	166,800	7,385,000	2,239,724	9,624,724
38-39	760,000	291,450	1,855,000	110,400	7,555,000	1,991,043	9,546,043
39-40	780,000	268,650	1,825,000	54,750	7,695,000	1,728,919	9,423,919
40-41	805,000	245,250			6,100,000	1,455,306	7,555,306
41-42	830,000	221,100			6,315,000	1,227,337	7,542,337
42-43	855,000	196,200			6,525,000	991,375	7,516,375
43-44	880,000	170,550			6,765,000	747,325	7,512,325
44-45	905,000	144,150			5,125,000	498,788	5,623,788
45-46	930,000	117,000			4,190,000	328,326	4,518,326
46-47	960,000	89,100			3,010,000	195,201	3,205,201
47-48	990,000	60,300			2,045,000	97,225	2,142,225
48-49	1,020,000	30,600			1,020,000	30,600	1,050,600
	$ 19,595,000	$ 10,829,850	$ 19,520,000	$ 8,363,170	$ 204,890,000	$ 91,676,114	$ 296,566,114

Knoxville Utilities Board Water Division
Supplemental Information - Schedule of Changes in Long-term Debt by Individual Issue
June 30, 2020

Description of Indebtedness	Original Amount of Issue	Interest Rate	Date of Issue	Last Maturity Date	Outstanding Balance 7/1/2019	Issued During Period	Paid/Matured During Period	Refunded During Period	Outstanding Balance 6/30/2020
Business-Type Activities									
BONDS PAYABLE									
Payable through Water Fund									
Revenue Bond, Series W-2011	25,000,000	2.0-5.0	12/01/11	03/01/40	$ 21,150,000	$	$ 550,000	$ 20,600,000	$ -
Revenue Bond Refunding, Series X-2012	10,050,000	3.0-5.0	04/20/12	03/01/29	7,050,000		590,000		6,460,000
Revenue Bond Refunding, Series Y-2013	9,285,000	3.0-4.0	03/15/13	03/01/30	8,070,000		340,000		7,730,000
Revenue Bond, Series Z-2013	25,000,000	2.0-5.0	10/01/13	03/01/44	22,150,000		550,000		21,600,000
Revenue Bond, Series AA-2014	8,000,000	2.0-4.0	09/18/14	03/01/44	7,275,000		175,000		7,100,000
Revenue Bond Refunding, Series BB-2015	23,005,000	2.0-5.0	05/01/15	03/01/33	20,985,000		950,000		20,035,000
Revenue Bond, Series CC-2015	20,000,000	2.0-4.0	05/20/15	03/01/45	18,450,000		425,000		18,025,000
Revenue Bond, Series DD-2016	25,000,000	3.0-5.0	08/05/16	03/01/46	23,750,000		525,000		23,225,000
Revenue Bond Refunding, Series EE-2016	20,875,000	2.0-5.0	08/05/16	03/01/33	20,675,000		1,090,000		19,585,000
Revenue Bond Refunding, Series FF-2017	5,310,000	3.0-5.0	04/07/17	03/01/27	4,375,000		475,000		3,900,000
Revenue Bond, Series GG-2017	20,000,000	2.125-5.0	09/15/17	03/01/47	19,420,000		395,000		19,025,000
Revenue Bond, Series HH-2018	19,995,000	3.0-5.0	09/14/18	03/01/48	19,470,000		380,000		19,090,000
Revenue Bond, Series II-2019	19,995,000	3.0-5.0	08/20/19	03/01/49	-	19,995,000	400,000		19,595,000
Revenue Bond Refunding, Series JJ-2020	19,520,000	3.0-5.0	05/22/20	03/01/40	-	19,520,000	-		19,520,000
					$ 192,820,000	$ 39,515,000	$ 6,845,000	$ 20,600,000	$ 204,890,000

Knoxville Utilities Board Water Division
Statistical Information - Schedule of Insurance in Force
June 30, 2020
(Unaudited)

Insurance coverage is for KUB as a consolidated entity.

Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), OPEB Trust funds, and Medical Plan. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $575,000 per individual participant.

Knoxville Utilities Board Water Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
Residential Inside City rate	For water furnished to premises entirely within the corporate limits of the City of Knoxville:	56,462

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.00 Per 100 Cubic Feet
Over	2	100 Cubic Feet Per Month at $2.65 Per 100 Cubic Feet

Additional Monthly Customer Charge

For	5/8" meter	$ 18.00
For	1" meter	32.10
For	1 1/2" meter	44.00
For	2" meter	60.00

Residential Outside City rate	For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville:	13,737

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.05 Per 100 Cubic Feet
Over	2	100 Cubic Feet Per Month at $3.20 Per 100 Cubic Feet

Additional Monthly Customer Charge

For	5/8" meter	$ 19.40
For	1" meter	36.40
For	1 1/2" meter	50.40
For	2" meter	69.40

Knoxville Utilities Board Water Division
Statistical Information - Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
Non-Residential Inside City rate/ Industrial Park rate	For water furnished to premises entirely within the corporate limits of the City of Knoxville or within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:	10,061

Commodity Charge

First	2	100 Cubic Feet Per Month at $2.15 Per 100 Cubic Feet
Next	8	100 Cubic Feet Per Month at $4.55 Per 100 Cubic Feet
Next	90	100 Cubic Feet Per Month at $5.65 Per 100 Cubic Feet
Next	300	100 Cubic Feet Per Month at $4.20 Per 100 Cubic Feet
Next	4,600	100 Cubic Feet Per Month at $2.60 Per 100 Cubic Feet
Next	5,000	100 Cubic Feet Per Month at $1.20 Per 100 Cubic Feet

Additional Monthly Customer Charge

For	5/8" meter	$ 18.00
For	1" meter	32.10
For	1 1/2" meter	44.00
For	2" meter	60.00
For	3" meter	161.00
For	4" meter	266.00
For	6" meter	583.00
For	8" meter	1,026.00
For	10" meter	1,563.00
For	12" meter	2,311.00

Non-Residential Outside City rate	For water furnished to premises upon which any water faucet or other outlet is outside the corporate limits of the City of Knoxville, excluding premises within the boundaries of an area recognized as an industrial park by the Tennessee Department of Economic and Community Development:	701

Commodity Charge

First	2	100 Cubic Feet Per Month at $2.55 Per 100 Cubic Feet
Next	8	100 Cubic Feet Per Month at $5.30 Per 100 Cubic Feet
Next	90	100 Cubic Feet Per Month at $6.85 Per 100 Cubic Feet
Next	300	100 Cubic Feet Per Month at $4.90 Per 100 Cubic Feet
Next	4,600	100 Cubic Feet Per Month at $3.15 Per 100 Cubic Feet
Next	5,000	100 Cubic Feet Per Month at $1.45 Per 100 Cubic Feet

Additional Monthly Customer Charge

For	5/8" meter	$ 19.40
For	1" meter	36.40
For	1 1/2" meter	50.40
For	2" meter	69.40
For	3" meter	192.00
For	4" meter	321.00
For	6" meter	701.00
For	8" meter	1,231.00
For	10" meter	1,873.00
For	12" meter	2,775.00

Knoxville Utilities Board Water Division
Statistical Information - Schedule of Unaccounted for Water
June 30, 2020
(Unaudited)

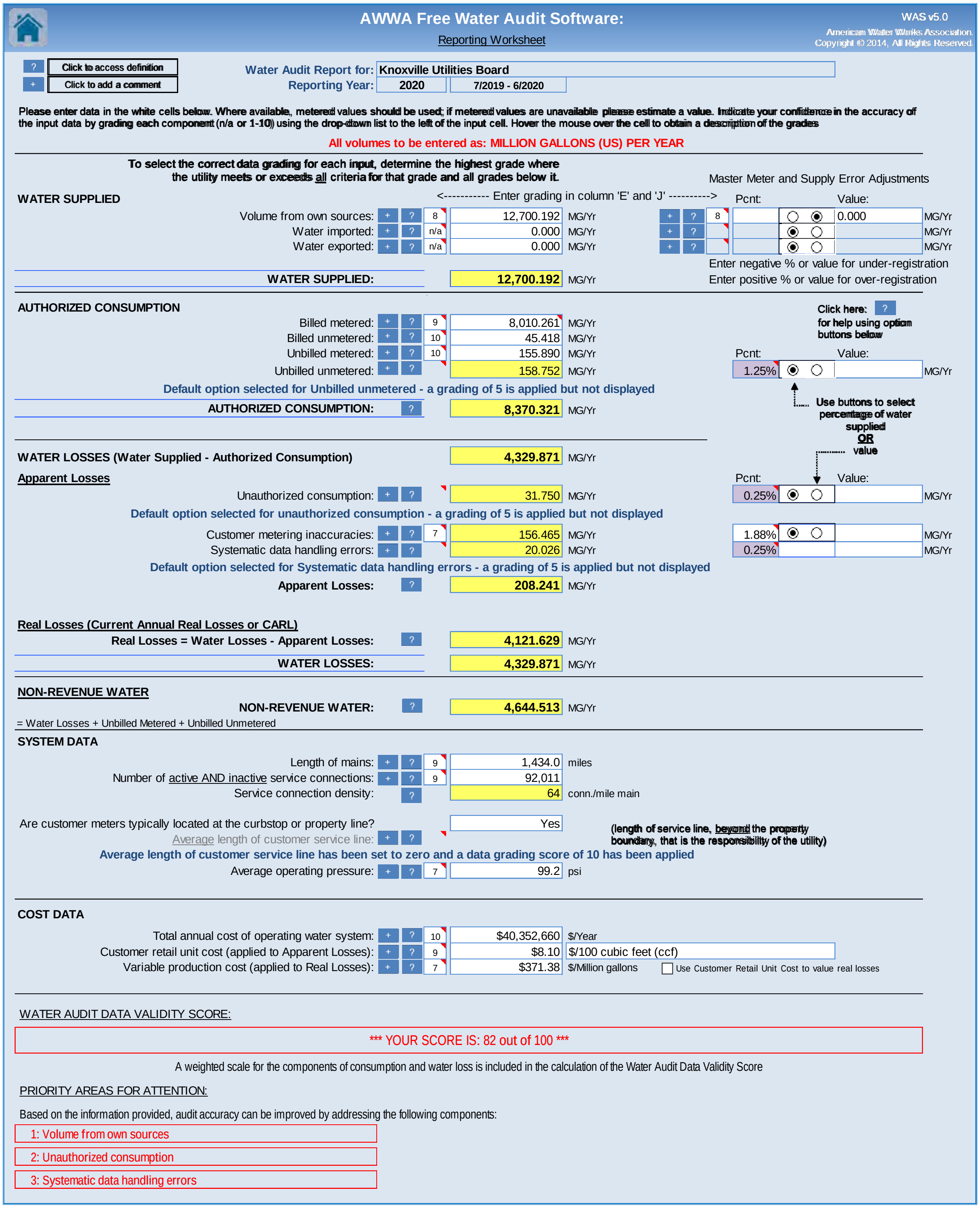
The following unaudited Schedule of Unaccounted for Water is attached as required by the Tennessee Code Annotated. For reports submitted January 1, 2013 and later, the American Water Works Association (AWWA) water loss reporting model must be used. For fiscal years 2020 and 2019, water utilities are required to have a Validity Score greater than 80 and maintain non-revenue water as a percent by cost of operating system of less than 20%. For fiscal year 2020, KUB reported a Validity Score of 82 and non-revenue water as a percent by cost of operating system of 9.7%. For fiscal year 2019, KUB reported a Validity Score of 82 and non-revenue water as a percent by cost of operating system of 9.1%. See Statistical Information - Schedule of Unaccounted for Water for the AWWA Reporting Worksheet.

Knoxville Utilities Board Water Division

Statistical Information - Schedule of Unaccounted for Water

June 30, 2020

(Unaudited)



AWWA Free Water Audit Software:

Reporting Worksheet

WAS v5.0

American Water Works Association.
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Water Audit Report for: Knoxville Utilities Board
Reporting Year: 2020 7/2019 - 6/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<----------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:		Value:	
Volume from own sources:	8	12,700.192	MG/Yr	8		○ ●	0.000	MG/Yr
Water imported:	n/a	0.000	MG/Yr			● ○		MG/Yr
Water exported:	n/a	0.000	MG/Yr			● ○		MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: **12,700.192** MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:		Value:	
Billed metered:	9	8,010.261	MG/Yr				
Billed unmetered:	10	45.418	MG/Yr				
Unbilled metered:	10	155.890	MG/Yr				
Unbilled unmetered:		158.752	MG/Yr	1.25%	● ○		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: **8,370.321** MG/Yr

Use buttons to select percentage of water supplied
<u>OR</u>
value

WATER LOSSES (Water Supplied - Authorized Consumption) **4,329.871** MG/Yr

Apparent Losses

				Pcnt:		Value:	
Unauthorized consumption:		31.750	MG/Yr	0.25%	● ○		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	156.465	MG/Yr	1.88%	● ○		MG/Yr
Systematic data handling errors:		20.026	MG/Yr	0.25%			MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **208.241** MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **4,121.629** MG/Yr

WATER LOSSES: **4,329.871** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **4,644.513** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,434.0	miles
Number of active AND inactive service connections:	9	92,011	
Service connection density:		64	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 7 99.2 psi

COST DATA

Total annual cost of operating water system:	10	$40,352,660	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$8.10	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	7	$371.38	$/Million gallons ☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 82 out of 100 ***

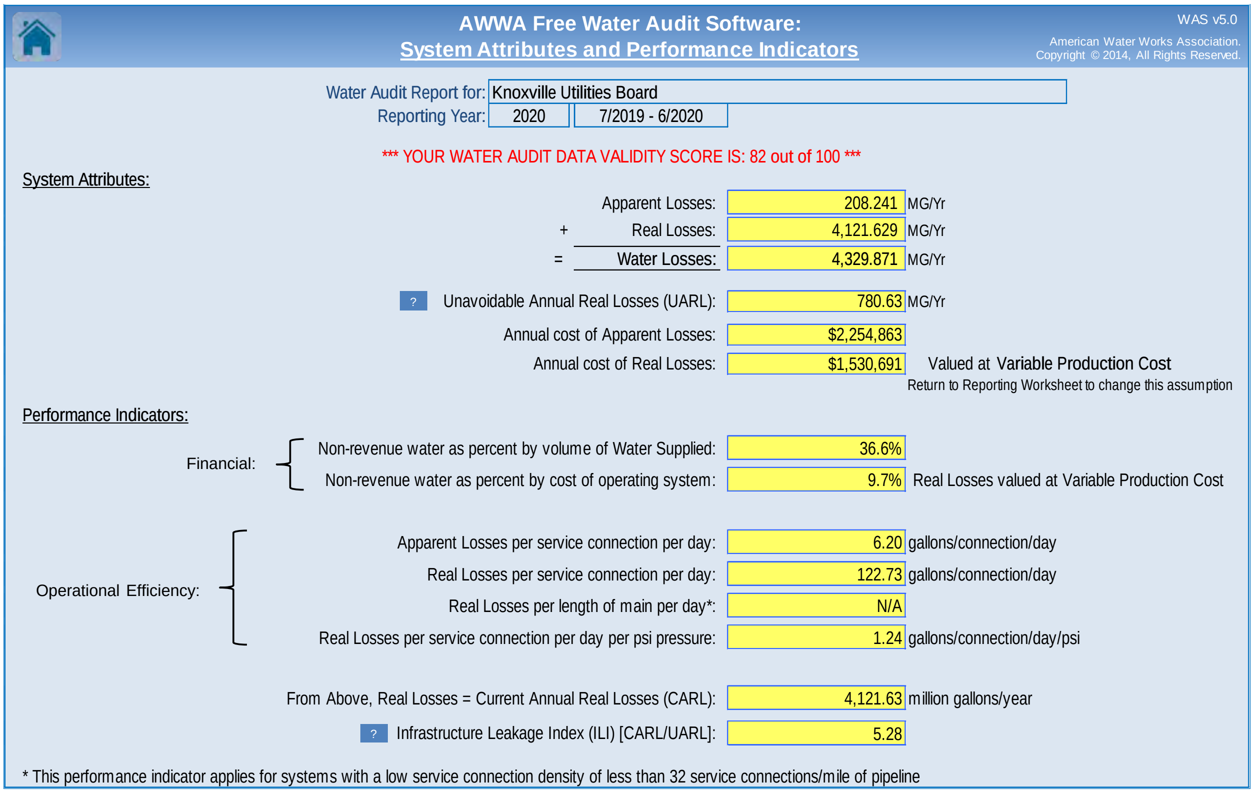
A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Unauthorized consumption
3: Systematic data handling errors

Knoxville Utilities Board Water Division
Statistical Information - Schedule of Unaccounted for Water
June 30, 2020
(Unaudited)



AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0

American Water Works Association.
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Water Audit Report for: Knoxville Utilities Board
Reporting Year: 2020 7/2019 - 6/2020

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 82 out of 100 ***

System Attributes:

	Apparent Losses:	208.241	MG/Yr
+	Real Losses:	4,121.629	MG/Yr
=	Water Losses:	4,329.871	MG/Yr
?	Unavoidable Annual Real Losses (UARL):	780.63	MG/Yr
	Annual cost of Apparent Losses:	$2,254,863	
	Annual cost of Real Losses:	$1,530,691	Valued at Variable Production Cost

Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	36.6%	
	Non-revenue water as percent by cost of operating system:	9.7%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	6.20	gallons/connection/day
	Real Losses per service connection per day:	122.73	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	1.24	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	4,121.63	million gallons/year
	? Infrastructure Leakage Index (ILI) [CARL/UARL]:	5.28	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Water Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 29, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Water Division of the Knoxville Utilities Board
Knoxville, Tennessee

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board Water Division
Schedule of Findings and Questioned Costs
June 30, 2020

Section I -- Summary of Auditor's Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting: Material weakness(es) identified?	No
Significant deficiency(s) identified not considered to be material weaknesses?	None reported
Noncompliance material to financial statements:	No

Section II -- Financial Statement Findings
None reported.

Section III – Findings Required by the State of Tennessee Audit Manual
None reported.

Section IV -- Summary Schedule of Prior Year Audit Findings
Not applicable as there were no prior year findings reported.

APPENDIX E-1

THE WASTEWATER DIVISION

THE WASTEWATER DIVISION

INTRODUCTION

The Wastewater Division was established June 16, 1953 as a separate department of the City of Knoxville. On November 4, 1986, voters in the City elected to transfer operation of the City's Wastewater Division to KUB, effective July 1, 1987. While the Wastewater Division is a self-sustained financial entity, the operations of both the water distribution and wastewater collection and treatment systems have been merged to achieve operating efficiencies.

The wastewater system provides collection and treatment throughout the City and portions of East Knox County.

WASTEWATER SYSTEM

When established, the wastewater system had two treatment plants. The two treatment plants and the lines were adequate to serve the needs of the original City. However, the annexation of additional land and the needs of the population created a demand beyond the capacity of the system.

The system embarked upon a significant expansion program throughout the 1960s and 1970s. This included the acquisition of the sewage facilities of the Fountain City Sanitary District. In 1982, the City completed construction of its 40 million gallons per day (MGD) treatment facility at the mouth of Third Creek. In 1985 the capacity of the Fourth Creek Treatment Plant was expanded.

In July 1987, as a result of an earlier public referendum, the operation of the wastewater system was transferred from the City to KUB. In June of 1988, the East Knox Utility District was acquired by KUB. KUB acquired the Northeast Knoxville Utility District wastewater facilities in 2002. The present KUB wastewater system consists of four treatment plants, 76 pumping stations, and approximately 1,318 miles of service mains. The Third Creek Plant, now known as Kuwahee, is located at the mouth of Third Creek and serves the First Creek, Second Creek, Holston River, Baker Creek, and Goose Creek drainage areas and that portion of the Third Creek area within the original City boundaries. Secondly, the Loves Creek Treatment Plant is located at the mouth of Loves Creek and serves this entire drainage area. The Fourth Creek Treatment Plant is located at the mouth of Fourth Creek and serves the Fourth Creek drainage area, the Ten Mile Creek drainage area, and that portion of the Third Creek area outside the original city limits. The Eastbridge Treatment Plant, located on the Holston River, serves the Lyons Creek Drainage Basin and the Eastbridge Industrial Park.

In addition to the service areas outlined above, service is provided to other drainage basins through an agreement with West Knox Utility District. At the present time, the quantities of flow received from this utility district are small in comparison to total system flows.

Total flows through the wastewater system for the twelve months ended June 30, 2020 were 16.7 billion gallons. Average daily flow through the system was 45.6 MGD. The wastewater system presently provides service to approximately 72,246 customers.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In 2013, the Board extended the funding approach for Century II to include the wastewater system, although the Wastewater Division had maintained a ten-year funding plan since the inception of the federal Consent Decree (see below). The Board formally endorsed and adopted by resolution, a ten-year funding plan for the Wastewater Division, which included a combination of rate increases and debt issues to fully fund the wastewater system's Century II program.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years.

In June 2014, the Board approved three annual rate increases for the Wastewater Division. The three rate increases went into effect in October 2014, October 2015, and October 2016. Each rate increase provided an additional $4.7 million of annual sales revenue.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of wastewater rate increases to support the Century II program. The three approved wastewater rate increases went into effect in July 2017, July 2018, and July 2019, generating $4.3 million, $4.2 million, and $4.5 million in additional annual Wastewater Division revenue, respectively.

In fiscal year 2020, KUB rehabilitated or replaced 24.2 miles of wastewater system mains, exceeding the target level of 22 miles, while staying within the Division's total capital budget.

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FEDERAL CONSENT DECREE

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases, which were effective October 2014, October 2015, and October 2016, and three 5 percent rate increases, which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

PENSION PLAN

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	**2018**
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $568,881 and $694,466 are attributable to the Wastewater Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $696,890. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $806,337. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

See Appendix E-2 for additional pension plan information.

QUALIFIED EXCESS BENEFIT ARRANGEMENT (QEBA)

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

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As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68 ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $4,452 at June 30, 2020, and $51,015 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

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Changes in total pension liability of the QEBA are as follows:

		Increase (Decrease)
		Total Pension Liability
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions

The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate

The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate

The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	Current Discount Rate (2.74%)	1% Increase (3.74%)
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $43,801). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $6). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $4,769) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $1,205) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $48,020). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $2,348). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $3,029) and a deferred outflow of $29,385 (Division's share $6,465) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $1,338).

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The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources		Deferred Inflows of Resources	
Differences between expected and actual experience	$	5,500	$	21,675
Changes in assumptions		40,059		13,770
Contributions subsequent to measurement date		6,083		-
Total	$	51,642	$	35,445
Division's share	$	11,362	$	7,798

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $1,338). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:		
2021	$	8,289
2022		8,289
2023		(9,140)
2024		2,676
Thereafter		-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $6,499). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $6,358). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,806).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $4,040). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $9,697). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $1,594).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260
Division's share	$ 13,097	$ 10,398

OTHER POST-EMPLOYMENT BENEFITS (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

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Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

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Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division's share $68,491). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $166,590. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Wastewater Division's portion of this contribution is $107,594. The Plan's actuarial funded ratio is 97.68 percent.

See Appendix E-2 for additional OPEB information.

FISCAL YEAR 2021 FINANCIAL UPDATE

For the six months ending December 31, 2020, KUB's Wastewater Division recorded earnings of $11.5 million, representing a decrease of $2.8 million compared to the same period last fiscal year. This decrease is the result of a 1.4 percent decline in wastewater volumes compared to the same period last fiscal year.

KUB sold $27.5 million in wastewater system revenue bonds in October 2020 for the purpose of funding wastewater system capital improvements. As of December 31, 2020, the Wastewater Division had $540 million in outstanding debt, representing a debt to capitalization ratio of 60.2 percent. The Wastewater Division's maximum debt service coverage ratio is 1.71.

Capital investment in wastewater system infrastructure is approximately $51.4 million for fiscal year 2021, reflecting KUB's continued commitment to collection system replacement and treatment plant upgrades.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources. In response to the COVID-19 pandemic, the Wastewater Division chose to forego a proposed 2.25% rate increase for fiscal year 2021 to reduce financial impact on its customers.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

WASTEWATER RATES

The current rate schedules of the Wastewater Division are as follows:

WASTEWATER GENERAL SERVICE – RESIDENTIAL RATE SCHEDULE

Availability

Service under this rate schedule shall be available only to residential customers served individually through a separate meter.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

Rate

The Wastewater Service Charge shall be calculated using the applicable rate tables provided below, based on the customer’s water usage and water meter size with the following exceptions:

For customers whose wastewater discharge volumes are metered separately from their water usage, the metered wastewater discharge volumes will be used to calculate Service Charges under this schedule. The meter size used to calculate the Additional Monthly Charge under this schedule will be the largest equivalent water meter size as determined by KUB.

If neither the customer’s water usage nor wastewater discharge volumes are metered, the average water usage and water meter size of comparable metered customers as determined by KUB will be used to calculate the charges under this schedule.

In the event more than one meter is utilized to determine billed consumption, multiple basic service charges may apply. Charges will apply without regard to ownership of the meter(s).

I. Inside City Rate

For wastewater service provided to premises entirely within the corporate limits of the City of Knoxville:

Basic Service Charge	
5/8” meter	$ 35.90
1” meter	$ 50.90
1 ½” meter	$ 62.90
2” meter	$ 82.90

For meters greater than 2” the Customer Charges listed in the Wastewater Nonresidential schedule shall be utilized.

Commodity Charge	
First	2 Ccf at $ 1.75 per Ccf
Over	2 Ccf at $ 8.70 per Ccf

II. Outside City Rate

For wastewater service provided to premises entirely or partly outside the corporate limits of the City of Knoxville:

Basic Service Charge	
5/8” meter	$ 39.90
1” meter	$ 53.90
1 1/2" meter	$ 70.90
2” meter	$ 90.90

For meters greater than 2” the Customer Charges listed in the Wastewater Nonresidential schedule shall be utilized.

Commodity Charge	
First	2 Ccf at $ 1.90 per Ccf
Over	2 Ccf at $ 9.30 per Ccf

Additional Charges

In addition to the wastewater service charge, users whose wastewater has strength characteristics in excess of normal domestic wastewater shall pay an Extra Strength Surcharge as set forth in Schedule B. A Sewer Improvement Charge may also be payable as set forth in Schedule D.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

WASTEWATER GENERAL SERVICE – NONRESIDENTIAL RATE SCHEDULE

Availability

Service under this rate schedule shall be available to any commercial or industrial customer.

An existing customer or applicant for service under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

Rate

The Wastewater Service Charge shall be calculated using the applicable rate tables provided below, based on the customer's water usage and water meter size with the following exceptions:

For customers whose wastewater discharge volumes are metered separately from their water usage, the metered wastewater discharge volumes will be used to calculate Service Charges under this schedule. The meter size used to calculate the Additional Monthly Charge under this schedule will be the largest equivalent water meter size as determined by KUB.

If neither the customer's water usage nor wastewater discharge volumes are metered, the average water usage and water meter size of comparable metered customers as determined by KUB will be used to calculate the charges under this schedule.

In the event more than one meter is utilized to determine billed consumption, multiple customer charges may apply. Charges will apply without regard to ownership of the meter(s).

I. Inside City

For wastewater service provided to premises entirely within the corporate limits of the City of Knoxville:

	Customer Charge
5/8" meter	$ 35.90
1" meter	$ 50.90
1 ½" meter	$ 62.90
2" meter	$ 82.90
3" meter	$ 161.00
4" meter	$ 264.00
6" meter	$ 562.00
8" meter	$ 977.00
10" meter	$1,481.00
12" meter	$2,182.00

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Commodity Charge

First	2 Ccf at $	1.00 per Ccf
Next	8 Ccf at $	12.95 per Ccf
Next	90 Ccf at $	11.55 per Ccf
Next	300 Ccf at $	9.90 per Ccf
Next	4,600 Ccf at $	8.05 per Ccf
Over	5,000 Ccf at $	4.75 per Ccf

II. Outside City Rate

For wastewater service provided to premises entirely or partly outside the corporate limits of the City of Knoxville:

Customer Charge

5/8” meter	$ 39.90
1” meter	$ 53.90
1 1/2" meter	$ 70.90
2” meter	$ 90.90
3” meter	$ 183.00
4” meter	$ 291.00
6” meter	$ 618.00
8” meter	$1,075.00
10” meter	$1,624.00
12” meter	$2,396.00

Commodity Charge

First	2 Ccf at $	1.15 per Ccf
Next	8 Ccf at $	14.25 per Ccf
Next	90 Ccf at $	12.65 per Ccf
Next	300 Ccf at $	10.80 per Ccf
Next	4,600 Ccf at $	9.00 per Ccf
Over	5,000 Ccf at $	5.35 per Ccf

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE B – EXTRA STRENGTH SURCHARGES

Applicability

For user whose discharge of wastewater contains a quantity of BOD in excess of 2,000 pounds per million gallons (240 mg/l), and a quantity of suspended solids in excess of 2,500 pounds per million gallons (300 mg/l), an additional charge, based on the following schedule, shall be applied to the excess contribution, as determined by laboratory analysis of the user’s discharge. This Extra Strength Surcharge is in addition to all other charges that may be applicable under

KUB's rate schedules.

Rate

BOD	$14.30 per hundred pounds of excess
Suspended Solids	$13.55 per hundred pounds of excess

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE C – HOLDING TANK AND SPECIAL WASTE CHARGES

Domestic Waste (Commercial Waste Disposal)

For users engaged in the business of cleaning wastewater and wastewater residues from septic tanks and other private disposal systems, a domestic waste discharge permit is required and certain fees and charges are assessed against those users.

(1) Annual Access Fee:

The annual access fee for the use of KUB's disposal facilities shall be $100.00 per fiscal year, per permitted vehicle. The full fee shall be payable for any fraction of the fiscal year. Bills under this section will be rendered annually at the beginning of KUB's fiscal year or such later time during the fiscal year that service is commenced.

(2) Domestic Waste Discharge Rate:

Each load of Domestic Waste discharged to KUB's facilities shall be subject to a Discharge Rate of $102.80 per 1,000 gallons. Bills under this section will be rendered monthly.

Special Waste

For users who dispose of any other waste from any tank, pond, pit or other source into the KUB system, a special waste discharge permit is required and the following fees and charges will be assessed against those users.

(1) Special Waste Discharge Permit Application Fee:

A special Wastewater Discharge Permit must be obtained before any Special Waste may be discharged into KUB's facilities. The application fee for such permit is $75.00. The application fee is non-refundable and is applicable whether or not the application is approved or the permit issued. The fee must be paid prior to discharge.

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(2) Special Waste Discharge Fee:

Due to the widely differing character of Special Wastes, the Discharge Fee shall vary, but, at a minimum, the Fee will be the sum of the Wastewater Service Charge as set forth by the Nonresidential Rate Schedule of the Wastewater Division of KUB plus the Extra Strength Surcharges as set forth in Schedule B to the Rate Schedules of the Wastewater Division of KUB. In addition to those charges set forth in the aforementioned Schedules, the Customer will be required to pay the cost to KUB of analyzing, or providing special handling for, the Customer's Special Waste, plus a reasonable charge for the impact that the Special Waste is expected to have on the KUB treatment facilities as determined by KUB. Bills under this section will be rendered upon completion of the discharge.

Operating Procedures

KUB shall establish operating procedures including such items as permit issuance, acceptable wastes, disposal locations, reporting and billing methods for the implementation of this Rate Schedule C, which may be changed from time to time by KUB.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE D – SEWER IMPROVEMENT CHARGE

Applicable Charges

All properties connected or having access to the wastewater system shall be subject to a Sewer Improvement Charge which shall be determined as follows:

For all users not described in paragraph A (2), or A (3), the Sewer Improvement Charge shall be an amount equal to the Contribution in Aid of Construction determined in accordance with the provisions of Section 33-19 of the Rules and Regulations for the Wastewater Division that may from time to time be in effect. Any contribution in Aid of Construction that is assessed under Section 33-19 (b) of the Rules and Regulations on or after December 1, 1992 may, at the customer's option, be paid as a part of the customer's utility bill in monthly installments for a period not to exceed ten (10) years at an annual interest rate of nine percent (9%).

For all users that: (i) on December 1, 1992 are being assessed, or which properly should be assessed, a Sewer Improvement Charge under the terms of this Schedule D as it existed immediately prior to December 1, 1992 or, (ii) which are located in areas annexed into the corporate limits of the City of Knoxville pursuant to Ordinance No. 0-31-87, the Sewer Improvement Charge shall be calculated on multiples of a basic charge (the "Basic Charge"), which shall be Six Hundred Seventy -Five Dollars ($675.00). At the customer's option, the Sewer Improvement Charge may be paid as a part of the customer's utility bill in monthly installments of Three and 25/100 dollars ($3.25) for the three hundred sixty (360) months. Sewer Improvement

Charges assessed under the terms of this paragraph A (2) shall be calculated as follows:

(a) Each user consisting of a single-family dwelling shall pay a Sewer Improvement Charge equal to the Basic Charge, regardless of area.

(b) Each multifamily, commercial or industrial user shall pay a Sewer Improvement Charge based on the greater of the following two calculations:

a. Area/meter basis: The lesser of (a) the Basic charge times the square footage of the area of the property divided by 15,000 or (b) the Basic Charge times the following multiples based on meter size:

Meter Size	Multiple
5/8”	1
¾”	1.5
1”	2.5
1 ½”	5
2”	8
3”	15
4”	25
6”	50
8”	80
10”	120
12”	155

* If a user is served by more than one meter, the multiple used shall be the sum of the multiple computed on each meter.

b. Frontage Basis – the Basic Charge times the total frontage of the property measured in feet at the building line parallel to the street along which the property lies for the greater distance divided by 100.

(c) For service to users located entirely or partly outside the corporate limits of the City of Knoxville, the Sewer Improvement Charge imposed under this paragraph A (2) shall be one and one-half (1-1/2) times the above schedule of charges.

(d) Any user charged a Sewer Improvement Charge under this paragraph A (2) that reconnects to the Wastewater system on or after December 1, 1992 because of a change in the level or character of the user’s wastewater service shall upon such reconnection be subject to the Sewer Improvement Charge calculated under paragraph A (1) hereof.

For all property located in a Transfer Area, that is subject to a Fee Agreement, the user shall be subject to a Sewer Improvement Charge equal in amount to the payments that would have been owed under the Fee Agreement for the affected property, assuming the Fee Agreement remained in effect for its duration, adjusted in accordance with KUB’s policies for any additional property users as permitted under the Fee Agreement, less a credit for any payments actually paid to KUB under the Fee Agreement. Except as otherwise provided herein, Sewer Improvement

Charges assessed under this paragraph A (3) shall be paid on the same terms provided in the Fee Agreement for the affected property. As used herein" (i) the term "Transfer Area" shall mean an area: (a) that was previously provided wastewater service by a municipal utility (other than KUB) or a utility district, and (b) with respect to which KUB acquired or otherwise succeeded to the right to provide wastewater service; and (ii) the term "Fee Agreement" shall mean a contract or other agreement entered into between the owner or other user of a tract of property and a municipal utility (other than KUB) or a utility district, by the terms of which the owner or other user of the property agrees to pay all or any part of the cost of extending wastewater lines and facilities to such property or otherwise making wastewater service available to such property.

Deferral of Payment

A Sewer Improvement Charge shall not be billed or collectible for any monthly billing for any period for which a wastewater service charge is not payable.

Prepayment

A customer who has elected to pay the Sewer Improvement Charge in monthly installments may thereafter prepay the balance of such charge in whole (but not in part) in an amount equal to the unamortized balance of the Sewer Improvement charge as of the date of such prepayment.

Installment Terms

A customer who has elected to pay the Sewer Improvement Charge in monthly installments pursuant to paragraph A (1) shall be obligated to make such payments at the rate of interest and length of payment period specified in this Schedule D as of the date of the customer's election, notwithstanding customer's right of prepayment.

Definitions

The defined terms in this Schedule D shall have the meanings given to them from time to time in the Rules and Regulations for Wastewater Division.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

SCHEDULE E – WHOLESALE WASTEWATER TREATMENT

Service under this Schedule shall be available only to governmental entities, including Utility Districts, that deliver through their wastewater collection system all or portions of their wastewater flow to KUB facilities for treatment. Applicants under this schedule may be required to execute a contract specifying, among other things, a minimum bill and minimum term for service under this schedule.

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Rate

Metered Flows	$5.10 per Thousand Gallons
Unmetered Flows	$5.80 per Thousand Gallons

For the purpose of determining billing volumes, metered flows are those flows metered at the point of delivery to KUB's collection system, pumping station or treatment facility; unmetered flows are those flows based upon the actual water use of the customers served by the collection system discharging to KUB's facilities, said water use being determined by the water meter readings furnished by the water service provider.

Rules and Regulations

Service is subject to Rules and Regulations of KUB.

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KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
CAPITALIZATION HISTORY

Historical	Fiscal Year	Accumulated Earnings	Contributed Capital	Revenue Bonds	Revenue Notes	Total Capitalization	Debt as % of Capitalization
	2011	$ 227,596,321	$ -	$ 398,405,000	$ -	$ 626,001,321	63.64%
	2012	$ 239,554,829	$ -	$ 390,745,000	$ -	$ 630,299,829	61.99%
	2013	$ 248,325,320	$ -	$ 458,595,000	$ -	$ 706,920,320	64.87%
	2014	$ 253,999,330	$ -	$ 450,050,000	$ -	$ 704,049,330	63.92%
	2015	$ 261,594,704	$ -	$ 503,260,000	$ -	$ 764,854,704	65.80%
	2016	$ 271,115,564	$ -	$ 492,330,000	$ -	$ 763,445,564	64.49%
	2017	$ 284,390,014	$ -	$ 499,850,000	$ -	$ 784,240,014	63.74%
	2018	$ 305,219,517	$ -	$ 512,890,000	$ -	$ 818,109,517	62.69%
	2019	$ 324,696,658	$ -	$ 511,995,000	$ -	$ 836,691,658	61.19%
	2020	$ 345,897,621	$ -	$ 512,560,000	$ -	$ 858,457,621	59.71%

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
OPERATING STATISTICS
for the Fiscal Years ending on June 30

Revenues:	**2016**	**2017**	**2018**	**2019**	**2020**
Service Charge	$ 79,418,091	$ 84,323,092	$ 90,215,876	$ 94,511,486	$ 97,229,200
Industrial Surcharge	246,459	337,502	388,511	405,581	324,153
Other Charges	582,525	543,009	625,826	538,772	371,249
Utility Districts	334,779	361,157	375,143	346,496	352,309
Total Sales Revenues	$ 80,581,854	$ 85,564,760	$ 91,605,356	$ 95,802,335	$ 98,276,911
Other Revenues	$ 3,063,655	$ 2,952,451	$ 3,110,408	$ 2,679,818	$ 3,058,613
Total Revenues	**$ 83,645,509**	**$ 88,517,210**	**$ 94,715,764**	**$ 98,482,153**	**$ 101,335,524**

NUMBER OF CUSTOMERS - WASTEWATER

Fiscal Year	Total	New Customers
10 / 11	68,744	-162
11 / 12	69,183	439
12 / 13	69,528	345
13 / 14	69,613	85
14 / 15	69,847	234
15 / 16	70,265	418
16 / 17	70,751	486
17 / 18	71,242	491
18 / 19	71,807	565
19 / 20	72,246	439

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

For The Fiscal Years Ended June 30

	2016	2017	2018	2019	2020
Operating Revenues:	$ 83,645,509	$ 88,517,210	$ 94,715,764	$ 98,482,153	$ 101,335,524
Operating Expenses:					
Treatment	$ 12,515,728	$ 11,914,383	$ 11,674,833	$ 12,444,333	$ 12,735,896
Collection	7,462,333	7,686,373	7,410,791	8,130,072	8,228,482
Customer services	2,961,518	3,072,606	3,106,304	3,775,848	3,693,419
Administrative and general	8,571,620	9,257,078	8,747,272	11,302,892	11,464,254
Provision for deprec. & amortization	18,342,674	18,517,403	19,137,860	19,545,435	19,881,198
Taxes and tax equivalents	4,537,378	4,795,532	5,038,630	5,317,546	5,573,710
Total Operating Expenses	$ 54,391,251	$ 55,243,375	$ 55,115,690	$ 60,516,126	$ 61,576,959
Operating Income	$ 29,254,258	$ 33,273,835	$ 39,600,074	$ 37,966,027	$ 39,758,565
Non-Operating Revenues / Expenses:					
Contributions in aid of construction	$ 652,525	$ 723,825	$ 2,237,910	$ 395,167	$ 854,230
Interest and dividend income	461,544	641,747	1,205,290	1,906,274	1,484,440
Interest expense	(20,168,993)	(20,232,835)	(20,508,567)	(20,521,206)	(20,169,760)
Loss on write down of plant assets	(652,525)	(723,825)	(2,237,910)	(395,167)	(854,230)
Other	(716,631)	(872,081)	(740,509)	(263,056)	(63,956)
Total Non-Operating	$ (20,424,080)	$ (20,463,169)	$ (20,043,786)	$ (18,877,988)	$ (18,749,276)
Changes in Net Position before Capital Contributions	$ 8,830,178	$ 12,810,666	$ 19,556,288	$ 19,088,039	$ 21,009,289
Capital Contributions	690,682	463,784	278,222	389,102	191,674
Change in Net Position	$ 9,520,860	$ 13,274,450	$ 19,834,510	$ 19,477,141	$ 21,200,963
Net Position, beginning of year	$ 261,594,704	$ 271,115,564	$ 284,390,014	$ 305,219,517	$ 324,696,658
Adjustment	-	-	994,993	-	-
Net Position, end of year	**$ 271,115,564**	**$ 284,390,014**	**$ 305,219,517**	**$ 324,696,658**	**$ 345,897,621**

Source: The above amounts have been derived from the Annual Audited Financial Statements for the Knoxville Utilities Board, Wastewater Division and the Board's internal financial records and should be read in conjunction therewith.

TEN LARGEST WASTEWATER SYSTEM CUSTOMERS - 2020

The ten largest Wastewater System customers, as of June 30, 2020, in order of total sales generated are listed below. Those ten wastewater customers represent 14.15% of the total wastewater sales based on revenue and 18.59% of the total wastewater based on sales volume.

	Customer	Usage CCF	Sales Revenue	Percent of Sales Revenue
1.	University of Tennessee	675,941	$ 6,176,207	6.28%
2.	KCDC	172,589	1,759,918	1.79%
3.	University Health Systems Inc	158,606	1,103,411	1.12%
4.	Rohm & Haas Tennessee Inc	158,473	978,436	1.00%
5.	Knox County Schools	58,183	781,554	0.80%
6.	West Town Mall	81,878	733,978	0.75%
7.	Processed Food Corporation	74,500	644,268	0.66%
8.	City of Knoxville	52,841	602,491	0.61%
9.	Knox County Government	50,317	576,321	0.59%
10.	Fresenius USA Manufacturing, Inc	59,606	545,790	0.56%
	TOTAL	**1,542,934**	**$ 13,902,374**	**14.15%**

Total Wastewater Sales Revenue		$ 98,276,911
Top 10 as Percent of Total Wastewater Sales Revenue		14.15%
Total Wastewater Sales Volume (CCF)	8,298,691	
Top 10 as Percent of Total Wastewater Sales Volume	18.59%	

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
BONDS OUTSTANDING

The following table shows the outstanding bond indebtedness of the Wastewater Division.

Amount Issued	Series	Due Date	Interest Rates	Outstanding as of June 30, 2020 (1)
$ 70,000,000	(2) Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds)	04-01-40	Fixed	$ 58,450,000
17,070,000	Wastewater System Revenue Refunding Bonds, Series 2012A	04-01-29	Fixed	10,850,000
65,000,000	Wastewater System Revenue Bonds, Series 2012B	04-01-47	Fixed	58,225,000
113,340,000	Wastewater System Revenue Bonds, Series 2013A	04-01-37	Fixed	109,115,000
30,000,000	Wastewater System Revenue Bonds, Series 2014A	04-01-49	Fixed	27,300,000
129,825,000	Wastewater System Revenue Refunding Bonds, Series 2015A	04-01-42	Fixed	116,085,000
30,000,000	Wastewater System Revenue Bonds, Series 2015B	04-01-50	Fixed	27,475,000
20,000,000	Wastewater System Revenue Bonds, Series 2016	04-01-46	Fixed	18,275,000
11,965,000	Wastewater System Revenue Refunding Bonds, Series 2017A	04-01-27	Fixed	7,575,000
25,000,000	Wastewater System Revenue Bonds, Series 2017B	04-01-47	Fixed	23,745,000
12,000,000	Wastewater System Revenue Bonds, Series 2018	04-01-48	Fixed	11,485,000
16,000,000	Wastewater System Revenue Bonds, Series 2019	04-01-49	Fixed	15,750,000
28,230,000	Wastewater System Revenue Refunding Bonds, Series 2020A	04-01-45	Fixed	28,230,000
$ 568,430,000	**TOTAL DEBT (As of June 30, 2020)**			$ 512,560,000
$ 27,460,000	Wastewater System Revenue Bonds, Series 2020B (Issued October 30, 2020)	04-01-50	Fixed	$ 27,460,000
190,815,000	Wastewater System Revenue Refunding Bonds, Series 2021A	04-01-49	Fixed	190,815,000
(295,410,000)	Less: Bonds being Refinanced (Series 2010C & 2012A & 2012B & 2013A & 2014A)			(238,570,000)
$ 491,295,000	**TOTAL INDEBTEDNESS**			$ 492,265,000

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds) has been reduced by 5.9% for the federal fiscal year ending September 30, 2020 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2020 the sequestration rate will be adjusted for the federal fiscal year ending September 30, 2021 as a result of the sequestration by the Budget Control Act of 2011.

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
DEBT SERVICE REQUIREMENTS

	Outstanding Fiscal Year Debt Service on Bonds as of June 30, 2020				Wastewater System Revenue Bonds, Series 2020B			% Principal Repaid on Series 2020B Bonds	Wastewater System Revenue Refunding Bonds, Series 2021A			% Principal Repaid on Series 2021A Bonds
Fiscal Year	Principal	Interest	Est. Rebate (2)	Total	Principal	Interest (3)	Total		Principal	Interest (4)	Total	
2021	$ 15,055,000	$ 19,152,020	$ (1,117,903)	$ 33,089,117	$ 550,000	$ 369,321	$ 919,321	2.00%	$ -	$ -	$ -	0.00%
2022	15,595,000	18,587,884	(1,095,242)	33,087,642	555,000	858,500	1,413,500		3,490,000	7,845,718	11,335,718	
2023	16,305,000	17,850,244	(1,069,375)	33,085,869	580,000	836,300	1,416,300		3,060,000	8,119,050	11,179,050	
2024	17,070,000	17,089,944	(1,041,594)	33,118,350	600,000	813,100	1,413,100		6,085,000	7,996,650	14,081,650	
2025	17,685,000	16,467,419	(1,009,606)	33,142,813	625,000	789,100	1,414,100	10.60%	6,150,000	7,753,250	13,903,250	
2026	16,170,000	15,832,644	(975,247)	31,027,397	650,000	764,100	1,414,100		8,360,000	7,507,250	15,867,250	14.23%
2027	16,855,000	15,230,894	(932,303)	31,153,590	675,000	738,100	1,413,100		8,535,000	7,172,850	15,707,850	
2028	17,570,000	14,597,444	(885,453)	31,281,990	705,000	711,100	1,416,100		9,760,000	6,746,100	16,506,100	
2029	18,235,000	13,932,150	(835,359)	31,331,791	730,000	682,900	1,412,900		10,260,000	6,258,100	16,518,100	
2030	19,060,000	13,262,494	(782,857)	31,539,637	760,000	653,700	1,413,700	23.42%	10,800,000	5,745,100	16,545,100	
2031	19,760,000	12,574,788	(727,946)	31,606,842	785,000	630,900	1,415,900		11,315,000	5,205,100	16,520,100	40.78%
2032	20,445,000	11,866,063	(669,117)	31,641,946	805,000	607,350	1,412,350		11,935,000	4,639,350	16,574,350	
2033	21,185,000	11,130,225	(607,898)	31,707,327	830,000	583,200	1,413,200		12,550,000	4,042,600	16,592,600	
2034	21,900,000	10,386,763	(543,675)	31,743,088	855,000	558,300	1,413,300		13,015,000	3,540,600	16,555,600	
2035	22,705,000	9,579,113	(406,830)	31,877,283	880,000	532,650	1,412,650	38.55%	13,550,000	3,020,000	16,570,000	
2036	23,555,000	8,738,969	(332,495)	31,961,473	905,000	506,250	1,411,250		10,885,000	2,478,000	13,363,000	73.24%
2037	24,445,000	7,858,238	(254,645)	32,048,592	935,000	479,100	1,414,100		11,430,000	2,042,600	13,472,600	
2038	24,990,000	6,941,781	(173,279)	31,758,502	965,000	451,050	1,416,050		2,465,000	1,585,400	4,050,400	
2039	25,870,000	5,989,481	(88,398)	31,771,084	990,000	422,100	1,412,100		2,595,000	1,486,800	4,081,800	
2040	26,845,000	4,931,813	-	31,776,813	1,020,000	392,400	1,412,400	56.08%	2,705,000	1,383,000	4,088,000	
2041	24,630,000	3,905,881	-	28,535,881	1,050,000	361,800	1,411,800		3,515,000	1,274,800	4,789,800	85.14%
2042	25,640,000	2,993,569	-	28,633,569	1,085,000	330,300	1,415,300		3,655,000	1,134,200	4,789,200	
2043	10,255,000	2,042,656	-	12,297,656	1,115,000	297,750	1,412,750		3,920,000	988,000	4,908,000	
2044	10,630,000	1,709,875	-	12,339,875	1,150,000	264,300	1,414,300		4,110,000	831,200	4,941,200	
2045	11,050,000	1,364,875	-	12,414,875	1,185,000	229,800	1,414,800	76.42%	4,335,000	666,800	5,001,800	
2046	9,825,000	1,006,281	-	10,831,281	1,220,000	194,250	1,414,250		4,580,000	493,400	5,073,400	95.94%
2047	9,185,000	681,006	-	9,866,006	1,255,000	157,650	1,412,650		4,830,000	310,200	5,140,200	
2048	4,460,000	373,681	-	4,833,681	1,295,000	120,000	1,415,000		1,425,000	117,000	1,542,000	
2049	4,010,000	210,275	-	4,220,275	1,335,000	81,150	1,416,150	95.01%	1,500,000	60,000	1,560,000	
2050	1,575,000	63,000	-	1,638,000	1,370,000	41,100	1,411,100		-	-	-	100.00%
	$ 512,560,000	**$ 266,351,466**	**$ (13,549,221)**	**$ 765,362,246**	**$ 27,460,000**	**$ 14,457,621**	**$ 41,917,621**		**$ 190,815,000**	**$ 100,443,118**	**$ 291,258,118**	

	Less: Bonds Being Refunded				NET TOTAL DEBT SERVICE (1)				% Principal Repaid on All Debt
Fiscal Year	Principal	Gross Interest	Est. Rebate (2)	Total	Principal	Interest	Est. Rebate (2)	Total	
2021	-	$ -	$ -	$ -	$ 15,605,000	$ 19,521,340	$ (1,117,903)	$ 34,008,438	3.17%
2022	(5,365,000)	(8,279,045)	-	(13,644,045)	14,275,000	19,013,057	(1,095,242)	32,192,815	
2023	(5,510,000)	(8,483,144)	-	(13,993,144)	14,435,000	18,322,450	(1,069,375)	31,688,075	
2024	(9,600,000)	(8,254,144)	-	(17,854,144)	14,155,000	17,645,550	(1,041,594)	30,758,956	
2025	(9,990,000)	(7,899,019)	-	(17,889,019)	14,470,000	17,110,750	(1,009,606)	30,571,144	
2026	(10,680,000)	(7,528,344)	-	(18,208,344)	14,500,000	16,575,650	(975,247)	30,100,404	17.76%
2027	(11,135,000)	(7,122,656)	-	(18,257,656)	14,930,000	16,019,188	(932,303)	30,016,884	
2028	(12,485,000)	(6,687,006)	-	(19,172,006)	15,550,000	15,367,638	(885,453)	30,032,184	
2029	(12,965,000)	(6,202,544)	-	(19,167,544)	16,260,000	14,670,606	(835,359)	30,095,247	
2030	(13,640,000)	(5,715,131)	-	(19,355,131)	16,980,000	13,946,163	(782,857)	30,143,306	
2031	(14,125,000)	(5,216,956)	-	(19,341,956)	17,735,000	13,193,831	(727,946)	30,200,885	34.31%
2032	(14,665,000)	(4,695,706)	-	(19,360,706)	18,520,000	12,417,056	(669,117)	30,267,939	
2033	(15,220,000)	(4,154,256)	-	(19,374,256)	19,345,000	11,601,769	(607,898)	30,338,871	
2034	(15,715,000)	(3,591,156)	-	(19,306,156)	20,055,000	10,894,506	(543,675)	30,405,832	
2035	(16,355,000)	(2,973,994)	-	(19,328,994)	20,780,000	10,157,769	(406,830)	30,530,939	
2036	(13,275,000)	(2,330,700)	-	(15,605,700)	22,070,000	9,392,519	(332,495)	31,130,023	54.78%
2037	(13,770,000)	(1,884,606)	-	(15,654,606)	23,040,000	8,495,331	(254,645)	31,280,686	
2038	(2,925,000)	(1,421,869)	-	(4,346,869)	25,495,000	7,556,363	(173,279)	32,878,083	
2039	(3,050,000)	(1,329,119)	-	(4,379,119)	26,405,000	6,569,263	(88,398)	32,885,865	
2040	(3,150,000)	(1,234,494)	-	(4,384,494)	27,420,000	5,472,719	-	32,892,719	
2041	(3,950,000)	(1,136,869)	-	(5,086,869)	25,245,000	4,405,613	-	29,650,613	80.70%
2042	(4,125,000)	(1,011,025)	-	(5,136,025)	26,255,000	3,447,044	-	29,702,044	
2043	(4,325,000)	(878,700)	-	(5,203,700)	10,965,000	2,449,706	-	13,414,706	
2044	(4,500,000)	(739,850)	-	(5,239,850)	11,390,000	2,065,525	-	13,455,525	
2045	(4,700,000)	(595,400)	-	(5,295,400)	11,870,000	1,666,075	-	13,536,075	
2046	(4,925,000)	(444,600)	-	(5,369,600)	10,700,000	1,249,331	-	11,949,331	95.16%
2047	(5,150,000)	(286,525)	-	(5,436,525)	10,120,000	862,331	-	10,982,331	
2048	(1,600,000)	(121,175)	-	(1,721,175)	5,580,000	489,506	-	6,069,506	
2049	(1,675,000)	(61,975)	-	(1,736,975)	5,170,000	289,450	-	5,459,450	
2050	-	-	-	-	2,945,000	104,100	-	3,049,100	100.00%
	$ (238,570,000)	**$ (100,280,007)**	**$ -**	**$ (338,850,007)**	**$ 492,265,000**	**$ 280,972,197**	**$ (13,549,221)**	**$ 759,687,977**	

NOTES:

(1) The above figures do not include short-term notes outstanding, if any. Amounts represent audited June 30, 2020 outstanding debt adjusted for debt issuances post June 30, 2020. Totals are unaudited. For more information, see the notes to the Financial Statements in the FINANCIAL STATEMENTS included herein.

(2) The original federal subsidy of 35.0% on the Wastewater System Revenue Bonds, Series 2010C (Federally Taxable Build America Bonds) has been reduced by 5.9% for the federal fiscal year ending September 30, 2020 as a result of the sequestration by the Budget Control Act of 2011. After October 1, 2020 the sequestration rate will be adjusted for the federal fiscal year ending September 30, 2021 as a result of the sequestration by the Budget Control Act of 2011.

(3) True Interest Cost of 2.41%.

(4) True Interest Cost of 1.9139%.

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
HISTORICAL DEBT SERVICE COVERAGES

The historical coverage for the actual debt service requirements and the projected maximum annual debt service requirements (FY 2022) of the Outstanding Bonds and 2020B Bonds and 2021A Bonds for fiscal years ended June 30, 2016 through June 30, 2020 is set forth below.

	2016	**2017**	**2018**	**2019**	**2020**
Operating revenues	$ 83,645,509	$ 88,517,210	$ 94,715,764	$ 98,482,153	$ 101,335,524
Operating expenses*	(31,511,199)	(31,930,440)	(30,939,200)	(35,653,145)	(36,122,051)
Net income before Depreciation & taxes	$ 52,134,310	$ 56,586,770	$ 63,776,564	$ 62,829,008	$ 65,213,473
Other revenue (Net)	461,544	641,747	1,205,290	1,906,274	1,484,440
FICA & Medicare Tax Expense	(747,389)	(778,144)	(820,374)	(888,376)	(923,081)
Income available for debt service	$ 51,848,465	$ 56,450,373	$ 64,161,480	$ 63,846,906	$ 65,774,832
Actual annual debt service requirements on outstanding bonds	$ 30,819,779	$ 31,494,379	$ 32,372,447	$ 33,447,001	$ 34,204,172
Coverage (Times)	1.68 x	1.79 x	1.98 x	1.91 x	1.92 x
Maximum annual debt service requirements** (FY 2022) on Outstanding Bonds and the Series 2020B Bonds and 2021A Bonds***	$ 33,288,057	$ 33,288,057	$ 33,288,057	$ 33,288,057	$ 33,288,057
Coverage (Times)	1.56 x	1.70 x	1.93 x	1.92 x	1.98 x

* Excluding Provision for Depreciation and Taxes

** From Debt Service Requirements Chart. Maximum debt excludes estimated BABS rebate.

*** Series 2020B Bonds issued October 30, 2020

KNOXVILLE UTILITIES BOARD
WASTEWATER DIVISION
OPERATING REVENUE FROM WASTEWATER SALES

Fiscal Year Ended June 30		Revenue
2011	$	65,774,599
2012	$	70,502,494
2013	$	74,579,313
2014	$	75,041,645
2015	$	79,206,028
2016	$	83,645,509
2017	$	88,517,210
2018	$	94,715,764
2019	$	98,482,153
2020	$	101,335,524

WASTEWATER DIVISION
REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

KUB
Knoxville Utilities Board

Wastewater Division

Financial Statements and Supplemental Information
June 30, 2020 and 2019

KUB Board of Commissioners

Kathy Hamilton - Chair

Adrienne Simpson-Brown - Vice Chair

Dr. Jerry W. Askew

Celeste Herbert

Sara Hedstrom Pinnell

Tyvi Small

John Worden

Management

Gabriel Bolas II
President and
Chief Executive Officer

Mark Walker
Senior Vice President and
Chief Financial Officer

Susan Edwards
Senior Vice President and
Chief Administrative Officer

Derwin Hagood
Senior Vice President and
Chief Operating Officer

Eddie Black
Senior Vice President and
Chief Technology Officer

John Williams
Vice President of
Construction

Mike Bolin
Vice President of Utility
Advancement

Julie Childers
Vice President and
Century II Administrator

John Gresham
Vice President of
Operations

Knoxville Utilities Board Wastewater Division
Index
June 30, 2020 and 2019

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Independent Auditor's Report

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Wastewater Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the index.

Management's Responsibility for the Financial Statements

The Division's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Division's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Wastewater Division of the Knoxville Utilities Board as of June 30, 2020 and 2019, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 26 and the required supplementary information on pages 65 through 69 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The supplemental information which includes the Schedule of Expenditures of Federal Awards and State Financial Assistance, as required by Title 2 U.S. Code of Federal Regulations, Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and the State of Tennessee are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supplemental information which includes the Schedule of Expenditures of Federal Awards and State Financial Assistance is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, supplemental information and the Schedule of Expenditures of Federal Awards and State Financial Assistance are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The statistical information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Wastewater Division and do not purport to, and do not, present fairly the financial position of the Knoxville Utilities Board, as of June 30, 2020 and 2019, and the changes in its financial position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 29, 2020, on our consideration of the Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions. The Wastewater Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Wastewater Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The Division's discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of the Division's financial activity, (c) identify major changes in the Division's financial position, and (d) identify any financial concerns.

The Division's Management Discussion and Analysis (MD&A) focuses on the fiscal year ended June 30, 2020 activities, resulting changes and current known facts, and should be read in conjunction with the Division's financial statements.

Wastewater Division Highlights

System Highlights

The wastewater service area covers 243 square miles and includes 72,246 wastewater customers. KUB maintains 1,318 miles of services mains, 76 pump stations, and 4 treatment plants to treat 16.7 billion gallons of wastewater on an annual basis. The average daily flow is 45.6 million gallons.

For the second year in a row, KUB's system was impacted by excessive rainfall. After record setting levels in 2019, KUB experienced sustained rainfall amounts exceeding Knoxville's ten-year average for eight months of fiscal year 2020. Despite the record rainfall levels, KUB's wastewater system fared well. Excess flows were diverted to system storage allowing KUB to level out the impact of events over longer durations of time.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

KUB has added 1,495 wastewater system customers over the past three years, representing annual growth of less than one percent. In fiscal year 2020, 439 customers were added.

The typical residential wastewater customer's average monthly wastewater bill was $65.50 as of June 30, 2020, representing an increase of 5 percent or $3 compared to June 30, 2019. The increase in the monthly bill reflects a rate increase effective July 2019.

KUB's treatment plants continue to meet high standards of operation. KUB was awarded the National Association of Clean Water Agencies (NACWA) Water Resources Utility of the Future Today recognition under the category of Beneficial Biosolids Use for 2019. The treatment plants additionally won awards based on performance under NACWA's peak performance recognition. Eastbridge and Fourth Creek wastewater treatment plants won silver awards for calendar year 2019.

KUB continued to maintain Platinum certification with the National Biosolids Partnership following a rigorous review process and independent audit that was conducted in December 2019. Biosolids are nutrient-rich organic matter produced by wastewater treatment and is a registered fertilizer with the Tennessee Department of Agriculture.

Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In May 2017, a new Century II funding resolution was adopted by the KUB Board to express the continued commitment to funding Century II programs for the next ten years. The funding will be achieved through a combination of rate increases and debt issues supplemented by cost savings and new revenue from net customer additions.

In June 2017, the Board approved the next phase of wastewater rate increases to support the Century II program. The three approved wastewater rate increases went into effect in July 2017, July 2018, and July 2019, generating $4.3 million, $4.2 million, and $4.5 million in additional annual Wastewater Division revenue, respectively.

In fiscal year 2020, KUB rehabilitated or replaced 24.2 miles of wastewater system mains, exceeding the target level of 22 miles, while staying within the Division's total capital budget.

Consent Decree

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases, which were effective October 2014, October 2015, and October 2016, and three 5 percent rate increases, which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

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Financial Highlights

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's net position during the year increased $21.2 million compared to a $19.5 million increase last fiscal year.

Operating revenue increased $2.9 million or 2.9 percent, the result of additional revenue generated during the fiscal year from the rate increase effective July 2019 offset by a 3.3 percent decrease in customer billable flows.

Operating expenses increased $1.1 million. Operating and maintenance (O&M) expenditures increased $0.5 million. Depreciation expense rose $0.3 million or 1.7 percent. Taxes and tax equivalents increased $0.3 million or 4.8 percent.

Interest income was $0.4 million lower than the prior fiscal year. Interest expense decreased $0.4 million compared to the prior fiscal year. Other income (net) was $0.2 million higher.

Capital contributions decreased $0.2 million, the result of decreased donated utility assets from developers compared to the previous fiscal year.

Total plant assets (net) increased $33.5 million or 4.4 percent since the end of last fiscal year.

During fiscal year 2020, KUB sold $16 million in wastewater system revenue bonds for the purpose of funding wastewater system capital improvements and also sold $28.2 million in wastewater system revenue refunding bonds for the purpose of refinancing existing wastewater system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $18.9 million over the life of the bonds ($8.8 million on a net present value basis).

Long-term debt represented 59.7 percent of the Division's capital structure as of June 30, 2020, as compared to 61.2 percent last year. The decrease is the net result of the issuance of new revenue and refunding bonds and the scheduled repayment of debt during the fiscal year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 1.92. Maximum debt service coverage was 1.92.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's net position during the year increased $19.5 million compared to a $19.8 million increase last fiscal year. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for Other Post-Employment Benefits (OPEB), increased the total net position by $1 million during the fiscal year 2018. The change resulted in a total increase of $20.8 million in the Division's net position.

Operating revenue increased $3.8 million or 4 percent, the result of additional revenue generated during the fiscal year from the rate increase effective July 2018 offset by a one percent decrease in customer billable flows.

Operating expenses increased $5.4 million. Operating and maintenance (O&M) expenditures increased $4.7 million. Depreciation expense rose $0.4 million or 2.1 percent. Taxes and tax equivalents increased $0.3 million or 5.5 percent.

Interest income was $0.7 million higher than the prior fiscal year. Interest expense was consistent with the prior fiscal year. Other income (net) was $0.5 million higher.

Capital contributions increased $0.1 million, the result of an increase in donated utility assets from developers compared to the previous fiscal year.

Total plant assets (net) increased $33.2 million or 4.6 percent since the end of last fiscal year.

KUB sold $12 million in wastewater system revenue bonds in August 2018 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

Long-term debt represented 61.2 percent of the Division's capital structure as of June 30, 2019, as compared to 62.7 percent last year. The decrease is the net result of the issuance of new revenue bonds and the scheduled repayment of debt during the fiscal year. Capital structure equals long-term debt (which includes the current and long-term portion of revenue bonds) plus net position.

The Division's bond covenants require a debt service coverage ratio of at least 1.2 times the maximum principal and interest payments over the life of the Division's outstanding bonds. Current year debt coverage for the fiscal year was 1.91. Maximum debt service coverage was 1.90.

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Knoxville Utilities Board Wastewater Division - Financial Statements

The Division’s financial performance is reported under three basic financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

Statement of Net Position

The Division reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources, and net position in the Statement of Net Position. Assets are classified as current, restricted, wastewater plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets, restricted, or unrestricted. Net position tells the user what the Division has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position are assets that have been limited to specific uses by the Division’s bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position is either invested in capital or restricted is reported there.

Statement of Revenues, Expenses and Changes in Net Position

The Division reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

Statement of Cash Flows

The Division reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the Division’s sources and uses of cash during the reporting period.

The statement indicates the Division’s beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

Condensed Financial Statements

Statement of Net Position

The following table reflects the condensed Statement of Net Position for the Wastewater Division compared to the prior two fiscal years.

Statements of Net Position
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Current, restricted and other assets	$ 85,942	$ 91,458	$ 106,805
Capital assets, net	786,640	753,174	719,979
Deferred outflows of resources	17,107	19,087	16,112
Total assets and deferred outflows of resources	889,689	863,719	842,896
Current and other liabilities	27,813	28,239	22,404
Long-term debt outstanding	511,453	509,937	512,135
Deferred inflows of resources	4,525	846	3,137
Total liabilities and deferred inflows of resources	543,791	539,022	537,676
Net position			
Net investment in capital assets	279,477	249,592	216,037
Restricted	3,647	3,358	3,159
Unrestricted	62,774	71,747	86,024
Total net position	$ 345,898	$ 324,697	$ 305,220

Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation:

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.
- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

Impacts and Analysis

Current, Restricted and Other Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Current, restricted and other assets decreased $5.5 million or 6 percent, primarily due to a $10.4 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments) offset by an increase in the actuarially determined net pension asset of $4.2 million.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current, restricted and other assets decreased $15.3 million or 14.4 percent, primarily due to a $10.1 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments), a decrease in the actuarially determined net pension asset of $4.4 million, and a decrease in the actuarially determined net OPEB asset of $0.8 million.

Capital Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Capital assets increased $33.5 million or 4.4 percent, the result of capital expenditures, net of depreciation. Major capital expenditures during the year included $46 million for major system improvements related to Century II.

Fiscal Year 2019 Compared to Fiscal Year 2018

Capital assets increased $33.2 million or 4.6 percent, the result of capital expenditures, net of depreciation. Major capital expenditures during the year included $42.9 million for major system improvements related to Century II.

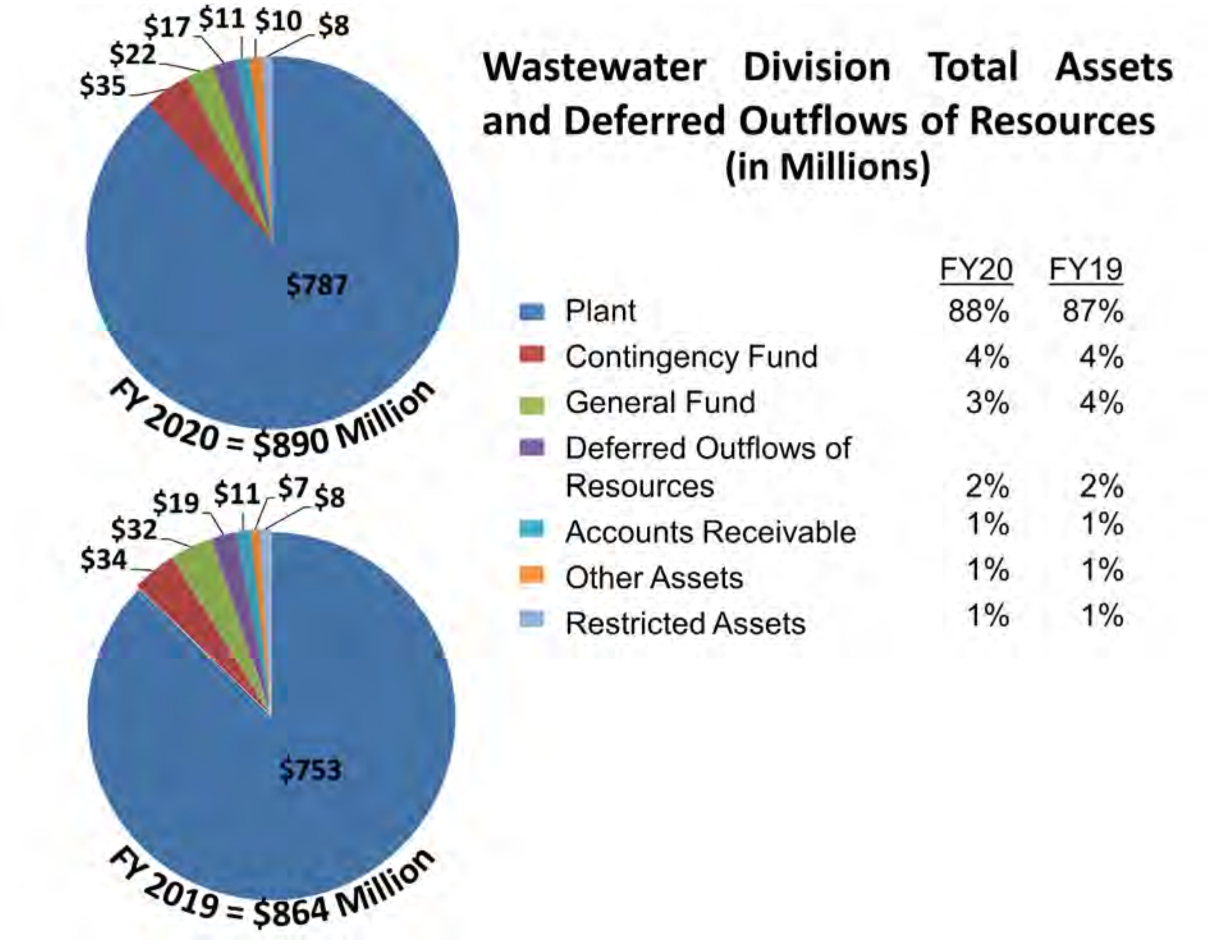
Deferred Outflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred outflows decreased $2 million compared to the prior year primarily due to a $2 million decrease in pension outflow.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred outflows increased $3 million compared to the prior year primarily due to a $3.4 million increase in pension outflow.



Current and Other Liabilities

Fiscal Year 2020 Compared to Fiscal Year 2019

Current and other liabilities were $0.4 million lower than the prior fiscal year, due to decreases of $1.8 million in accounts payable and $1.5 million in net pension liability offset by increases of $1.6 million for the current portion of revenue bonds and $1.4 in net OPEB liability.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current and other liabilities were $5.8 million higher than the prior fiscal year, due to a $2.6 million increase in accounts payable, a $1.5 million increase in net pension liability, and a $0.8 million increase in the current portion of revenue bonds.

Long-Term Debt

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division’s outstanding long-term debt increased $1.5 million or 0.3 percent. This increase is due to $16 million in wastewater system revenue bonds, sold in July 2019, and wastewater system revenue refunding bonds of $28.2 million, sold in April 2020, offset by the refunded bonds and the scheduled repayment of debt.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division’s outstanding long-term debt decreased $2.2 million or 0.4 percent. Wastewater system revenue bonds of $12 million, sold in August 2018, were offset by the scheduled repayment of debt.

Deferred Inflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred inflows of resources were $3.7 million higher than the prior fiscal year due to differences in pension inflows.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred inflows of resources were $2.3 million lower than the prior fiscal year due to differences in pension inflows.

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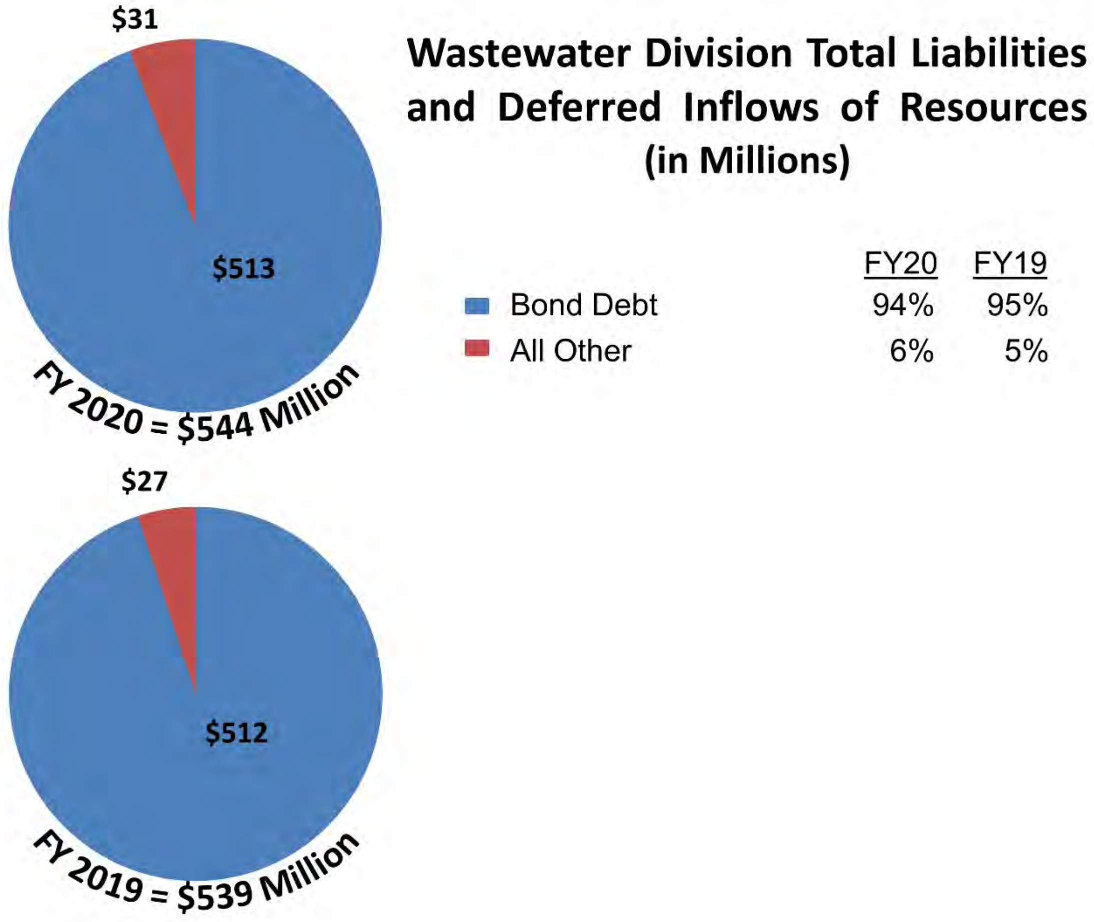

Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

Net position increased $21.2 million in fiscal year 2020. Unrestricted net position decreased $9 million, primarily due to a $5.4 million decrease in current and other assets compared to the prior year, which includes a $10.4 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments) offset by an increase in the actuarially determined net pension asset of $4.2 million. Net investment in capital assets increased $29.9 million, the result of $33.5 million in net plant additions offset by an increase in current portion of revenue bonds and total long-term debt of $3.2 million. Restricted net position was $0.3 million higher than the previous fiscal year due to a decrease in accrued interest on revenue bonds.

Fiscal Year 2019 Compared to Fiscal Year 2018

Net position increased $19.5 million in fiscal year 2019. Unrestricted net position decreased $14.3 million, primarily due to a $15.5 million decrease in current and other assets compared to the prior year, which includes a $10.1 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments), a decrease in the actuarially determined net pension asset of $4.4 million, and a decrease in the actuarially determined net OPEB asset of $0.8 million. Net investment in capital assets increased $33.6 million. The increase was the result of $33.2 million in net plant additions coupled with a decrease in current portion of revenue bonds and total long-term debt of $1.4 million.

Restricted net position was $0.2 million higher than the previous fiscal year, primarily due to increases in bond fund reserves.

Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed Statement of Revenues, Expenses and Changes in Net Position for the Wastewater Division compared to the prior two fiscal years.

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended June 30

(in thousands of dollars)		**2020**		**2019**		**2018**
Operating revenues	$	101,336	$	98,482	$	94,716
Operating expenses						
Treatment		12,736		12,444		11,675
Collection		8,229		8,130		7,411
Customer service		3,693		3,776		3,106
Administrative and general		11,464		11,303		8,747
Depreciation		19,881		19,545		19,138
Taxes and tax equivalents		5,574		5,318		5,039
Total operating expenses		61,577		60,516		55,116
Operating income		39,759		37,966		39,600
Interest income		1,484		1,906		1,205
Interest expense		(20,170)		(20,521)		(20,508)
Other income/(expense)		(64)		(263)		(740)
Change in net position before capital contributions		21,009		19,088		19,557
Capital contributions		192		389		278
Change in net position	$	21,201	$	19,477	$	19,835

Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation:

- Operating revenue is primarily determined by the amount of water usage billed during the fiscal year. KUB has certain commercial and industrial customers whose wastewater usage is metered separately from their water usage. Any change (increase/decrease) in wastewater rates would also cause a change in operating revenue.

- Operating expenses (treatment, collection system expense, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree health insurance costs, chemicals, and wastewater system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and tax equivalents are impacted by plant additions/retirements and changes in property tax rates.

- Interest income is impacted by the level of interest rates and investments.

- Interest expense is impacted by the level of outstanding debt and interest rates on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

Impacts and Analysis

Change in Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

The Division's Change in Net Position increased $21.2 million in fiscal year 2020. Comparatively, net position increased by $19.5 million in fiscal year 2019.

Fiscal Year 2019 Compared to Fiscal Year 2018

The Division's Change in Net Position increased $19.5 million in fiscal year 2019. Comparatively, net position increased by $19.8 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for OPEB, increased the total net position by an additional $1 million. The change resulted in a total increase of $20.8 million in the Division's net position.

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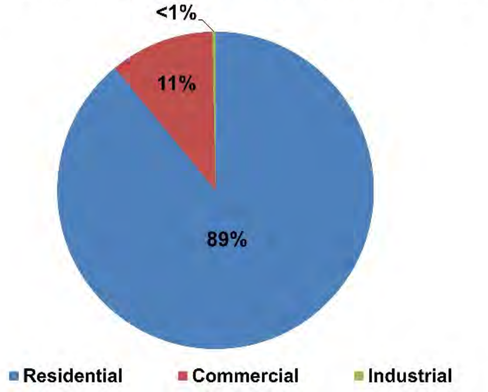
Margin from Sales

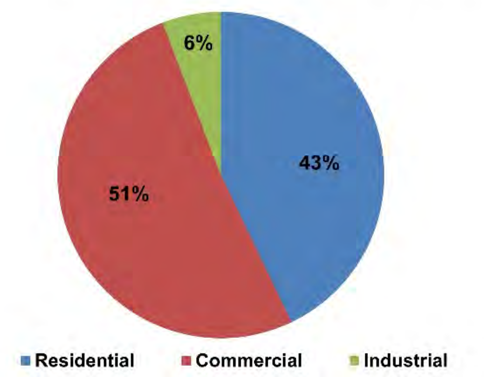
Fiscal Year 2020 Compared to Fiscal Year 2019

Operating revenue increased $2.9 million or 2.9 percent for the fiscal year ended June 30, 2020, the result of additional revenue generated during the fiscal year from the 5 percent rate increase effective July 2019 offset by a 3.3 percent decrease in billable customer flows. Rebates on bond interest payments from the federal government for federally taxable Build America Bonds (BABs) are reported as revenue in accordance with GASB. KUB recognized $1.7 million in revenue for BABs rebates in fiscal year 2020.

FY 2020 Total Wastewater Customers = 72,246



FY 2020 Wastewater Sales = 6.2 Billion Gallons



Residential customers accounted for 89 percent of wastewater customers and 43 percent of total billed sales volumes for the year. Commercial customers accounted for the largest portion of total sales volumes for the year with 51 percent.

KUB's ten largest wastewater customers accounted for 19 percent of KUB's billed wastewater volumes. Those ten customers represent three industrial and seven commercial customers, including five governmental customers.

KUB has added 1,495 wastewater customers over the past three years, representing annual growth of less than one percent.

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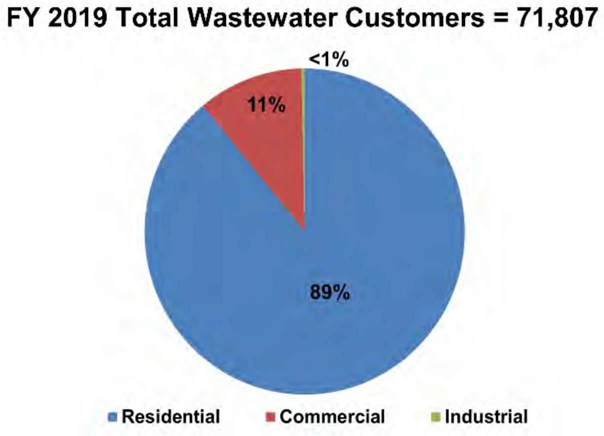
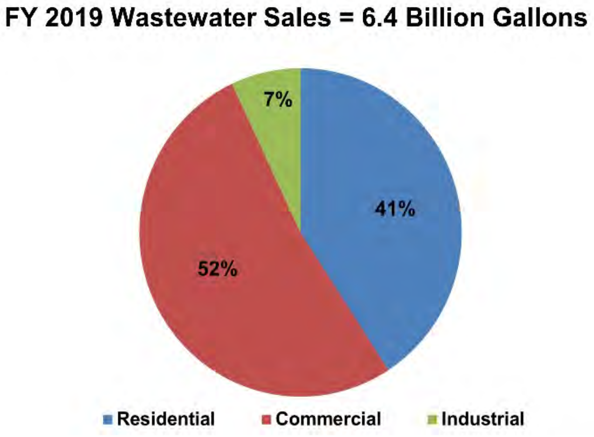
Fiscal Year 2019 Compared to Fiscal Year 2018

Operating revenue increased $3.8 million or 4 percent for the fiscal year ended June 30, 2019, the result of additional revenue generated during the fiscal year from the July 2018 rate increase offset by a one percent decrease in billable customer flows. Rebates on bond interest payments from the federal government for federally taxable Build America Bonds (BABs) are reported as revenue in accordance with GASB. KUB recognized $1.8 million in revenue for BABs rebates in fiscal year 2019.





Residential customers accounted for 89 percent of wastewater customers and 41 percent of total billed sales volumes for the year. Commercial customers accounted for the largest portion of total sales volumes for the year with 52 percent.

KUB's ten largest wastewater customers accounted for 19 percent of KUB's billed wastewater volumes. Those ten customers represent four industrial and six commercial customers, including four governmental customers.

KUB has added 1,542 wastewater customers over the past three years, representing annual growth of less than one percent.

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Operating Expenses

Fiscal Year 2020 Compared to Fiscal Year 2019

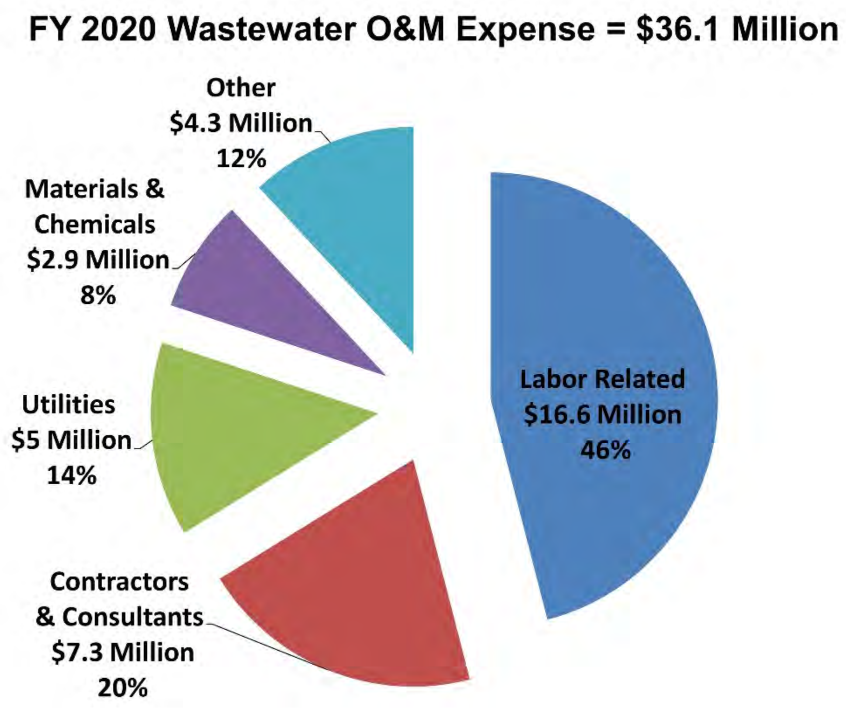
Operating expenses increased $1.1 million compared to fiscal year 2019. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, collection, customer service, and administrative and general.

- Treatment expenses increased $0.3 million, primarily due to higher labor related expenses.

- Collection system expenses increased $0.1 million.

- Customer service expenses decreased $0.1 million, primarily due to a decrease in outside contractors.

- Administrative and general expenses increased $0.2 million, primarily due to an increase in labor related expenses including higher OPEB costs.



- Depreciation expense increased $0.3 million or 1.7 percent, the result of a full year of depreciation on $29.6 million of wastewater system assets placed in service during fiscal year 2019 and a partial year of depreciation of $37.8 million of wastewater system assets placed in service during fiscal year 2020. Wastewater system assets of $7.3 million were retired during the fiscal year.

- Taxes and tax equivalents increased $0.3 million compared to the prior fiscal year due to increased plant in service levels.

Fiscal Year 2019 Compared to Fiscal Year 2018

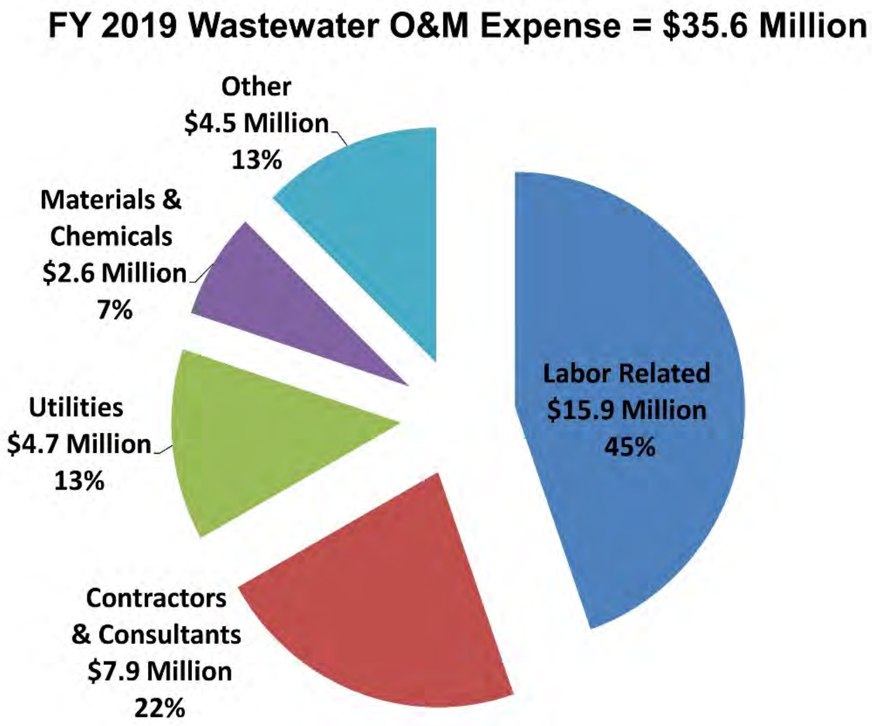
Operating expenses increased $5.4 million compared to fiscal year 2018. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, collection, customer service, and administrative and general.

- Treatment expenses increased $0.8 million, primarily due to higher outside consultant and contractor expenses.

- Collection system expenses increased $0.7 million, reflecting higher outside contractor expenses for Century II initiatives and increased labor related expenses.

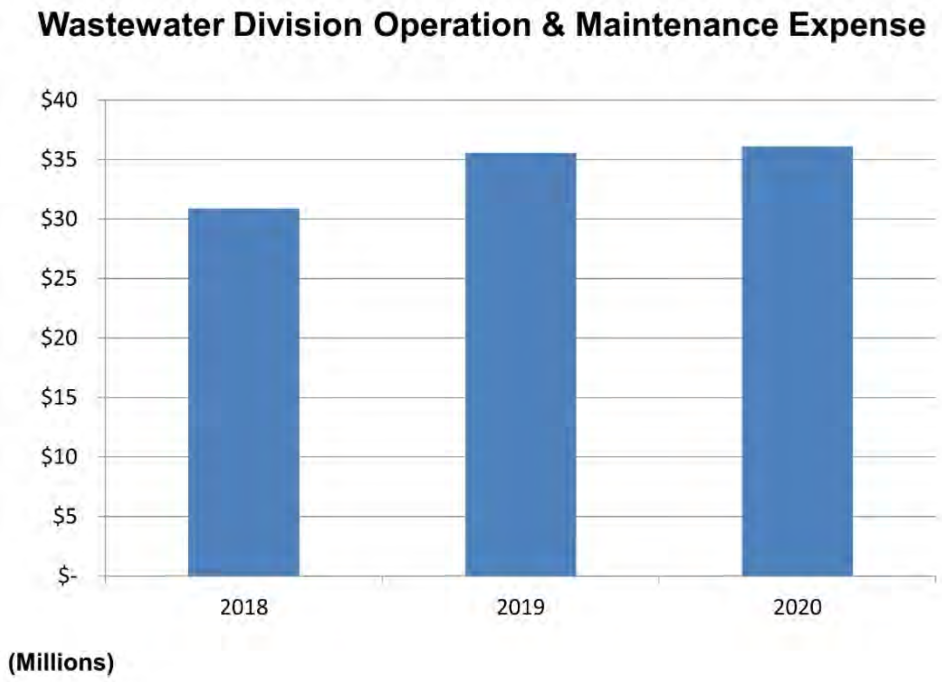
- Customer service expenses increased $0.7 million, primarily due to increased meter sharing expenses.

- Administrative and general expenses increased $2.5 million, primarily due to an increase in labor related expenses including higher pension expenses, reflecting impact of investment losses on Pension Trust assets in 2018.



- Depreciation expense increased $0.4 million or 2.1 percent, the result of a full year of depreciation on $29.5 million of wastewater system assets placed in service during fiscal year 2018 and a partial year of depreciation of $29.6 million of wastewater system assets placed in service during fiscal year 2019. Wastewater system assets of $5.3 million were retired during the fiscal year.

- Taxes and tax equivalents increased $0.3 million compared to the prior fiscal year due to increased plant in service levels.



Other Income and Expense

Fiscal Year 2020 Compared to Fiscal Year 2019

Interest income was $0.4 million lower than the prior fiscal year, primarily due to lower short-term interest rates.

Interest expense was $0.4 million lower than the prior fiscal year, reflecting the net impact of interest expense from new revenue bonds sold during the fiscal year and savings on refunding of outstanding bonds.

Other income (net) was $0.2 million higher than the prior fiscal year, primarily due to losses on disposition of property the prior fiscal year.

Capital contributions decreased $0.2 million compared to last fiscal year as a result of a decrease in assets received from developers and other governmental entities.

Fiscal Year 2019 Compared to Fiscal Year 2018

Interest income was $0.7 million higher than the prior fiscal year, primarily due to higher short-term interest rates.

Interest expense was consistent with the prior fiscal year, reflecting the net effect of interest expense from new revenue bonds sold during the fiscal year and debt retired during the year.

Other income (net) was $0.5 million higher than the prior fiscal year, primarily due to mark-to-market adjustments on investments.

Capital contributions increased $0.1 million compared to last fiscal year as a result of an increase in assets received from developers and other governmental entities.

Capital Assets

Capital Assets
As of June 30
(Net of Depreciation)

(in thousands of dollars)	**2020**	**2019**	**2018**
Pumping & Treatment Plant	$ 162,645	$ 156,202	$ 152,026
Collection Plant			
Mains and Metering	473,913	461,419	454,420
Other Accounts	64,355	65,898	67,355
Total Collection Plant	538,268	527,317	521,775
Total General Plant	7,898	7,809	8,217
Total Wastewater Plant	$ 708,811	$ 691,328	$ 682,018
Work In Progress	77,829	61,846	37,961
Total Net Plant	$ 786,640	$ 753,174	$ 719,979

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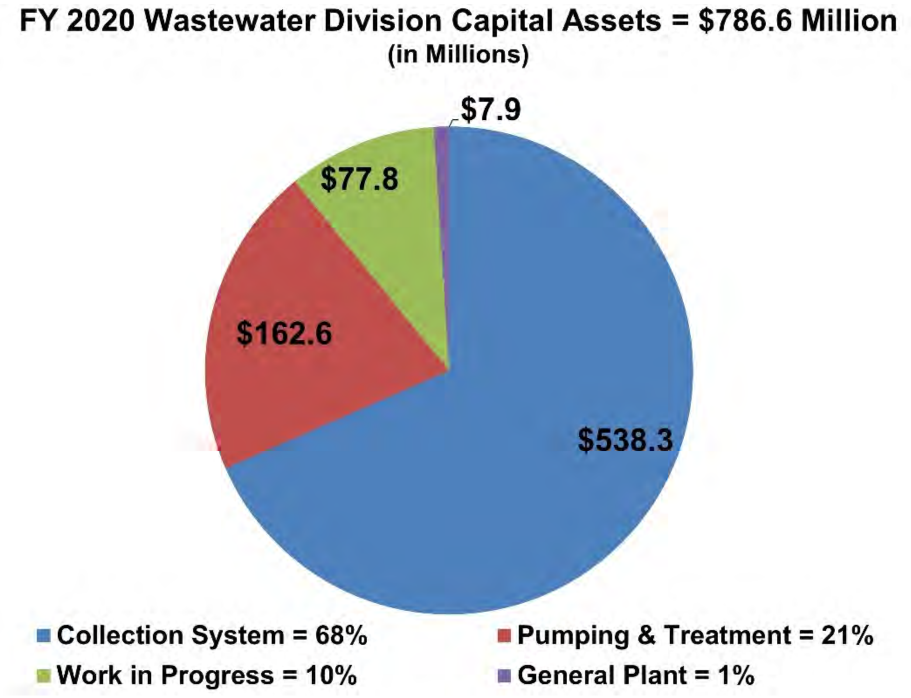
Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $786.6 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $33.5 million or 4.4 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $46 million related to Century II projects
- $20.2 million for wastewater treatment plant upgrades
- $9.1 million for sewer mini-basin rehabilitation and replacement
- $5.2 million for rehabilitation projects
- $3.9 million for pump station construction and improvements
- $3.9 million for short line projects
- $3.7 million for sewer trunk line rehabilitation and replacement

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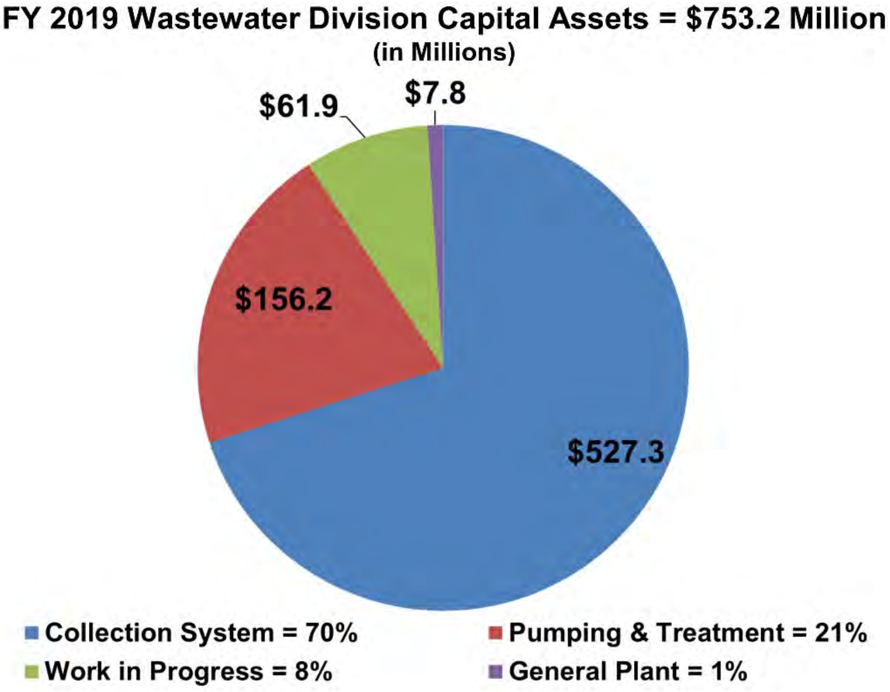
Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $753.2 million invested in a variety of capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $33.2 million or 4.6 percent over the end of the last fiscal year.



Major capital asset expenditures during the year were as follows:

- $42.9 million related to Century II projects
- $19.1 million for wastewater treatment plant upgrades
- $8.6 million for sewer mini-basin rehabilitation and replacement
- $5.2 million for pump station construction and improvements
- $4.1 million for sewer trunk line rehabilitation and replacement
- $3.1 million for rehabilitation projects
- $2.8 million for short line projects

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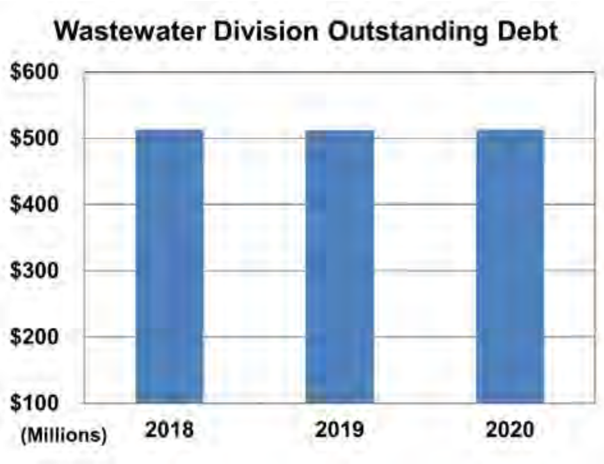
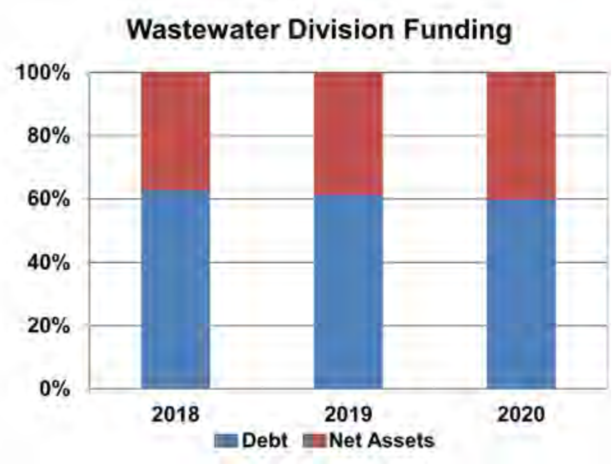
Debt Administration

As of June 30, 2020, the Wastewater Division had $512.6 million in outstanding wastewater system bonds. The Division's outstanding debt has remained at a steady level over the past three years, reflecting new bond issues and scheduled repayment of revenue bonds. Bond proceeds from new revenue bond sales are used to fund capital improvements for the wastewater system. The bonds are secured solely by revenues of the Wastewater Division. Debt as a percentage of the Division's capital structure was 59.7 percent in 2020, 61.2 percent in 2019, and 62.7 percent at the end of fiscal year 2018. KUB's Debt Management Policy limits the Division's debt ratio to 70 percent or less.

Outstanding Debt
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Revenue bonds	$ 512,560	$ 511,995	$ 512,890
Total outstanding debt	$ 512,560	$ 511,995	$ 512,890





The Division will pay $169.6 million in principal payments over the next ten years, representing 33 percent of the outstanding bonds. KUB's Debt Management Policy requires a minimum of 20 percent of wastewater debt principal be repaid over the next ten years.

Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, the Division had $512.6 million in outstanding debt (including the current portion of revenue bonds), representing an increase of $0.6 million. The increase is attributable to new revenue and refunding bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2020, the Division's weighted average cost of debt was 3.77 percent (3.55 percent including the impact of Build America Bonds rebates).

KUB sold $16 million in wastewater system revenue bonds in July 2019 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.79 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2049.

KUB sold $28.2 million in wastewater system revenue refunding bonds in April 2020 for the purpose of refinancing existing wastewater system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $18.9 million over the life of the bonds ($8.8 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.66 percent. The bonds mature over a period of 25 years with a final maturity in fiscal year 2045.

The Division’s outstanding debt is rated by Standard & Poor’s and Moody’s Investors Service. As of June 30, 2020, the Division’s revenue bonds were rated AA+ by Standard & Poor’s and Aa2 by Moody’s Investors Service.

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, the Division had $512 million in outstanding debt (including the current portion of revenue bonds), representing a decrease of $0.9 million. The decrease is attributable to new revenue bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2019, the Division’s weighted average cost of debt was 3.95 percent (3.61 percent including the impact of Build America Bonds rebates).

KUB sold $12 million in wastewater system revenue bonds in August 2018 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

The Division’s outstanding debt is rated by Standard & Poor’s and Moody’s Investors Service. As of June 30, 2019, the Division’s revenue bonds were rated AA+ by Standard & Poor’s and Aa2 by Moody’s Investors Service.

Impacts on Future Financial Position

KUB anticipates adding 420 wastewater customers in fiscal year 2021.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources. In response to the COVID-19 pandemic, the Wastewater Division chose to forego a proposed 2.25% rate increase for fiscal year 2021 to reduce financial impact on its customers.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

KUB sold $27.5 million in wastewater system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.41 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2050.

KUB long-term debt includes $58.5 million of Wastewater Division 2010 Build America Bonds (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 5.9 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan’s current funding policy. The Wastewater Division’s portion of this contribution is $696,890. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan’s current funding policy. The Wastewater Division’s portion of this contribution is $806,337. For the Plan year beginning January 1, 2020, the Plan’s actuarial funded ratio is 101.61 percent.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan’s current funding policy. The Wastewater Division’s portion of this contribution is $166,590. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan’s current funding policy. The Wastewater Division’s portion of this contribution is $107,594. The Plan’s actuarial funded ratio is 97.68 percent.

GASB Statement No. 84, *Fiduciary Activities*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 87, *Leases*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period,* is effective for fiscal years beginning after December 15, 2020. GASB Statement No. 90, *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 91, *Conduit Debt Obligations*, is effective for fiscal years beginning after December 15, 2021. GASB Statement No. 92, *Omnibus 2020*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 93, *Replacement of Interbank Offered Rates*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*, is effective for fiscal years beginning after June 15, 2021. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on the Division’s financial position or results of operations during fiscal year 2020.

Financial Contact

The Division’s financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of the Division’s financial position and results of operations for the fiscal years ended June 30, 2020 and 2019. If you have questions about the statements or need additional financial information, contact KUB’s Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

Knoxville Utilities Board Wastewater Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Current assets:		
Cash and cash equivalents	$ 11,728,383	$ 22,233,080
Short-term investments	10,057,625	9,986,525
Short-term contingency fund investments	27,390,992	23,985,414
Other current assets	-	77
Accrued interest receivable	26,972	50,679
Accounts receivable, less allowance of uncollectible accounts of $83,004 in 2020 and $85,638 in 2019	11,227,956	10,524,014
Inventories	595,389	478,665
Prepaid expenses	69,278	74,463
Total current assets	61,096,595	67,332,917
Restricted assets:		
Wastewater bond fund	8,324,253	8,401,415
Other funds	333	4,226
Total restricted assets	8,324,586	8,405,641
Wastewater plant in service	931,773,141	901,321,001
Less accumulated depreciation	(222,962,546)	(209,993,338)
	708,810,595	691,327,663
Retirement in progress	636,592	432,146
Construction in progress	77,192,768	61,414,303
Net plant in service	786,639,955	753,174,112
Other assets:		
Net pension asset	4,206,702	-
Long-term contingency fund investments	7,056,465	10,368,446
Other	5,257,115	5,350,666
Total other assets	16,520,282	15,719,112
Total assets	872,581,418	844,631,782
Deferred outflows of resources:		
Pension outflow	1,787,079	3,795,580
OPEB outflow	919,316	548,500
Unamortized bond refunding costs	14,400,979	14,742,812
Total deferred outflows of resources	17,107,374	19,086,892
Total assets and deferred outflows of resources	$ 889,688,792	$ 863,718,674

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Wastewater Division
Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Liabilities, Deferred Inflows, and Net Position		
Current liabilities:		
Current portion of revenue bonds	$ 15,055,000	$ 13,415,000
Accounts payable	2,335,983	4,146,636
Accrued expenses	927,750	911,466
Customer deposits plus accrued interest	921,231	893,158
Accrued interest on revenue bonds	4,678,153	5,047,565
Total current liabilities	23,918,117	24,413,825
Other liabilities:		
Accrued compensated absences	1,878,956	1,662,272
Customer advances for construction	261,274	253,025
Net pension liability	4,452	1,513,961
Net OPEB liability	1,669,678	318,503
Other	80,441	77,920
Total other liabilities	3,894,801	3,825,681
Long-term debt:		
Wastewater revenue bonds	497,505,000	498,580,000
Unamortized premiums/discounts	13,948,164	11,356,966
Total long-term debt	511,453,164	509,936,966
Total liabilities	539,266,082	538,176,472
Deferred inflows of resources:		
Pension inflow	4,525,089	845,544
Total deferred inflows of resources	4,525,089	845,544
Total liabilities and deferred inflows of resources	543,791,171	539,022,016
Net position		
Net investment in capital assets	279,477,265	249,592,233
Restricted for:		
Debt service	3,646,100	3,353,850
Other	333	4,226
Unrestricted	62,773,923	71,746,349
Total net position	345,897,621	324,696,658
Total liabilities, deferred inflows, and net position	$ 889,688,792	$ 863,718,674

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Wastewater Division

Statements of Revenues, Expenses and Changes in Net Position

Years Ended June 30, 2020 and 2019

	2020	2019
Operating revenues	$ 101,335,524	$ 98,482,153
Operating expenses		
Treatment	12,735,896	12,444,333
Collection	8,228,482	8,130,072
Customer service	3,693,419	3,775,848
Administrative and general	11,464,254	11,302,892
Provision for depreciation	19,881,198	19,545,435
Taxes and tax equivalents	5,573,710	5,317,546
Total operating expenses	61,576,959	60,516,126
Operating income	39,758,565	37,966,027
Non-operating revenues (expenses)		
Contributions in aid of construction	854,230	395,167
Interest income	1,484,440	1,906,274
Interest expense	(20,169,760)	(20,521,206)
Amortization of debt costs	(395,497)	(423,986)
Write-down of plant for costs recovered through contributions	(854,230)	(395,167)
Other	331,541	160,930
Total non-operating revenues (expenses)	(18,749,276)	(18,877,988)
Change in net position before capital contributions	21,009,289	19,088,039
Capital contributions	191,674	389,102
Change in net position	21,200,963	19,477,141
Net position, beginning of year	324,696,658	305,219,517
Net position, end of year	$ 345,897,621	$ 324,696,658

The accompanying notes are an integral part of these financial statements.

Knoxville Utilities Board Wastewater Division
Statements of Cash Flows
Years Ended June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash receipts from customers	$ 98,420,186	$ 95,996,952
Cash receipts from other operations	1,475,476	1,833,578
Cash payments to suppliers of goods or services	(25,577,736)	(20,360,518)
Cash payments to employees for services	(11,008,049)	(10,612,319)
Payment in lieu of taxes	(4,650,629)	(4,429,170)
Net cash provided by operating activities	58,659,248	62,428,523
Cash flows from capital and related financing activities:		
Net proceeds from bond issuance	16,842,065	11,861,721
Principal paid on revenue bonds	(13,665,000)	(12,895,000)
Interest paid on revenue bonds	(20,539,172)	(20,552,001)
Acquisition and construction of wastewater plant	(54,470,052)	(53,114,092)
Changes in wastewater bond fund, restricted	77,162	(169,205)
Customer advances for construction	8,249	248,425
Proceeds received on disposal of plant	53,582	4,497
Cash received from developers and individuals for capital purposes	854,230	395,167
Net cash used in capital and related financing activities	(70,838,936)	(74,220,488)
Cash flows from investing activities:		
Purchase of investment securities	(34,031,204)	(21,055,487)
Maturities of investment securities	33,966,149	11,143,470
Interest received	1,569,438	1,859,095
Other property and investments	170,608	(219,546)
Net cash provided by (used in) investing activities	1,674,991	(8,272,468)
Net decrease in cash and cash equivalents	(10,504,697)	(20,064,433)
Cash and cash equivalents, beginning of year	22,233,080	42,297,513
Cash and cash equivalents, end of year	$ 11,728,383	$ 22,233,080
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 39,758,565	$ 37,966,027
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	20,288,071	19,908,909
Changes in operating assets and liabilities:		
Accounts receivable	(703,942)	52,361
Inventories	(116,724)	45,319
Prepaid expenses	5,185	(1,994)
Other assets	22,991	525,262
Accounts payable and accrued expenses	(625,492)	3,877,492
Customer deposits plus accrued interest	28,073	43,950
Other liabilities	2,521	11,197
Net cash provided by operating activities	$ 58,659,248	$ 62,428,523
Noncash capital activities:		
Acquisition of plant assets through developer contributions	$ 191,674	$ 389,102

The accompanying notes are an integral part of these financial statements.

1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. The Wastewater Division (Division) provides services to certain customers in Knox County and in two surrounding counties in East Tennessee. The Division's accounts are maintained in conformity with the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC) and the Governmental Accounting Standards Board (GASB), as applicable. The financial statements present only the Wastewater Division and do not purport to, and do not, present fairly the consolidated financial position of Knoxville Utilities Board at June 30, 2020 and 2019, and the changes in its financial position for the years then ended in conformity with accounting principles generally accepted in the United States of America.

2. Significant Accounting Policies

Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments,* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied to the Division is determined by measurement focus. The transactions of the Division are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

Recently Adopted New Accounting Pronouncements

In May 2020, the GASB issued GASB Statement No. 95 (Statement No. 95), *Postponement of the Effective Dates of Certain Authoritative Guidance.* The objective of this Statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. That objective is accomplished by postponing the effective dates of certain provisions in Statements and Implementation Guides that first became effective or are scheduled to become effective for fiscal years beginning after June 15, 2018. The requirements of this Statement are effective immediately.

Wastewater Plant

Wastewater plant and other property are stated on the basis of original cost. The cost of current repairs and minor replacements is charged to operating expense. The cost of renewals and improvements is capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of wastewater plant in service is based on the estimated useful lives of the assets, which range from three to fifty years, and is computed using the straight-line method. Pursuant to NARUC, the caption "Provision for depreciation" in the Statements of Revenue, Expenses and Change in Net Position does not include depreciation for transportation equipment of $406,873 in fiscal year 2020 and $363,474 in fiscal year 2019. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of the KUB Wastewater Division. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $216,936 in fiscal year 2020 and $237,904 in fiscal year 2019.

Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted net assets available, it is KUB’s policy to apply those expenses to restricted net assets to the extent such are available and then to unrestricted net assets.

Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets, net position-restricted, and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

OPEB Plan

KUB's employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the Rule of 80 (age plus years of service) with a minimum of 20 years of service and were enrolled in medical coverage on their last day, are eligible for post-employment health care. KUB's OPEB Trust was established by KUB's Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. KUB's policy is to fully fund the annual actuarially determined contributions, which are determined by actuarial valuation. As required by GASB Statement No. 75, KUB measures net OPEB liability as total OPEB liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a June 30, 2020 and 2019 measurement date, respectively. The net OPEB liability is $7,589,447 (Division's share $1,669,678) as of June 30, 2020 and $1,447,742 (Division's share $318,503) as of June 30, 2019.

Pension Plan and Qualified Excess Benefit Arrangement

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The net pension asset is $19,121,375 (Division's share $4,206,702) as of June 30, 2020, and the net pension liability was $6,649,756 (Division's share $1,462,946) as of June 30, 2019.

KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB (Note 11). As required by GASB Statement No. 73, KUB measures the total pension liability of the QEBA. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The total pension liability of the QEBA is $20,236 (Division's share $4,452) as of June 30, 2020 and $231,883 (Division's share $51,015) as of June 30, 2019.

Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

Restricted and Designated Assets

Certain assets are restricted by bond resolutions for utility plant construction and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer's reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and OPEB plan investments, differences between expected and actual experience, and changes in assumptions in accordance with Statements No. 68, 73 and 75.

Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Compensated Absences

KUB accrues a liability for earned but unpaid paid time off (PTO) days.

Subsequent Events

KUB has evaluated events and transactions through October 29, 2020, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $27,460,000 in wastewater system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding wastewater system capital improvements in fiscal year 2021. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.41 percent. Annual debt service payments including principal and interest range from $919,320 to $1,416,300 with final maturity in fiscal year 2050.

Recently Issued Accounting Pronouncements

In January 2017, the GASB issued GASB Statement No. 84 (Statement No. 84), *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. Statement No. 84 is effective for fiscal years beginning after December 15, 2019.

In June 2017, the GASB issued GASB Statement No. 87 (Statement No. 87), *Leases*. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset. Statement No. 87 is effective for fiscal years beginning after June 15, 2021.

In June 2018, the GASB issued GASB Statement No. 89 (Statement No. 89), *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period, and to simplify accounting for interest cost incurred before the end of a construction period. Statement No. 89 is effective for fiscal years beginning after December 15, 2020.

In August 2018, the GASB issued GASB Statement No. 90 (Statement No. 90), *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61.* The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. Statement No. 90 is effective for fiscal years beginning after December 15, 2019.

In May 2019, the GASB issued GASB Statement No. 91 (Statement No. 91), *Conduit Debt Obligations.* The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. Statement No. 91 is effective for fiscal years beginning after December 15, 2021.

In January 2020, the GASB issued GASB Statement No. 92 (Statement No. 92), *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. Certain provisions of Statement No. 92 were effective immediately. Paragraphs 6, 7, 8, 9, and 12 are effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 93 (Statement No. 93), *Replacement of Interbank Offered Rates.* This Statement establishes accounting and financial reporting requirements related to the replacement of IBORs in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. Statement No. 93 is effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 94 (Statement No. 94), *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by improving the comparability of financial statements among governments that enter in PPPs and APAs. Statement No. 94 is effective for fiscal years beginning after June 15, 2022.

In May 2020, the GASB issued GASB Statement No. 96 (Statement No. 96), *Subscription-Based Information Technology Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by (a) establishing uniform accounting and financial reporting requirements for SBITAs; (b) improving the comparability of financial statements among governments that have entered into SBITAs; and (c) enhancing the understandability, reliability, relevance, and consistency of information about SBITAs. Statement No. 96 is effective for fiscal years beginning after June 15, 2022.

In June 2020, the GASB issued GASB Statement No. 97 (Statement No. 97), *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* The objectives of this Statement are to (a) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (b) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (c) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. Statement No. 97 is effective for fiscal years beginning after June 15, 2021.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures—an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

Interest Rate Risk. KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

Credit Risk. KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital.

Custodial Credit Risk. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by state law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

	2020	**2019**
Current assets		
Cash and cash equivalents	$ 11,728,383	$ 22,233,080
Short-term investments	10,057,625	9,986,525
Short-term contingency fund investments	27,387,441	23,985,414
Other assets		
Long-term contingency fund investments	6,927,797	10,178,488
Restricted assets		
Wastewater bond fund	8,324,253	8,401,415
Other funds	333	4,226
	$ 64,425,832	$ 74,789,148

The above amounts do not include accrued interest of $132,219 in fiscal year 2020 and $189,958 in fiscal year 2019. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2020:

	Deposit and Investment Maturities (in Years)		
	Fair Value	**Less Than 1**	**1-5**
Supersweep NOW and Other Deposits	$ 12,441,794	$ 12,441,794	$ -
State Treasurer's Investment Pool	24,182,389	24,182,389	-
Agency Bonds	28,514,627	21,586,830	6,927,797
	$ 65,138,810	$ 58,211,013	$ 6,927,797

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase of greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2020:

- U.S. Agency bonds of $6,927,797, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

4. Accounts Receivable

Accounts receivable consists of the following:

	2020	2019
Wholesale and retail customers		
Billed services	$ 6,333,228	$ 5,968,344
Unbilled services	4,288,451	3,906,547
Other	689,281	734,761
Allowance for uncollectible accounts	(83,004)	(85,638)
	$ 11,227,956	$ 10,524,014

5. Accounts Payable and Accruals

Accounts payable and accruals were composed of the following:

	2020	2019
Trade accounts	$ 2,335,983	$ 4,146,636
Salaries and wages	549,214	490,933
Self-insurance liabilities	378,536	420,533
	$ 3,263,733	$ 5,058,102

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6. Long-Term Obligations

Long-term debt consists of the following:

	Balance June 30, 2019	**Additions**	**Payments**	**Defeased**	**Balance June 30, 2020**	**Amounts Due Within One Year**
2010 - 6.3 - 6.5%	$ 30,000,000	$ -	$ -	$ 30,000,000	$ -	$ -
2010C - 1.18 - 6.1%	60,050,000	-	1,600,000	-	58,450,000	1,650,000
2012A - 2.0 - 4.0%	11,800,000	-	950,000	-	10,850,000	1,085,000
2012B - 1.25 - 5.0%	59,325,000	-	1,100,000	-	58,225,000	1,150,000
2013A - 2.0 - 4.0%	109,800,000	-	685,000	-	109,115,000	710,000
2014A - 2.0 - 4.0%	27,800,000	-	500,000	-	27,300,000	525,000
2015A - 3.0 - 5.0%	121,390,000	-	5,305,000	-	116,085,000	5,460,000
2015B - 3.0 - 5.0%	28,000,000	-	525,000	-	27,475,000	525,000
2016 - 2.0 - 5.0%	18,750,000	-	475,000	-	18,275,000	475,000
2017A - 3.0 - 5.0%	9,100,000	-	1,525,000	-	7,575,000	1,605,000
2017B - 2.0 - 5.0%	24,260,000	-	515,000	-	23,745,000	540,000
2018 - 3.0 - 5.0%	11,720,000	-	235,000	-	11,485,000	245,000
2019 - 3.0 - 5.0%	-	16,000,000	250,000	-	15,750,000	300,000
2020 - 3.0 - 5.0%	-	28,230,000	-	-	28,230,000	785,000
Total bonds	$ 511,995,000	$ 44,230,000	$ 13,665,000	$ 30,000,000	$ 512,560,000	$ 15,055,000
Unamortized Premium	11,356,966	3,388,697	640,486	157,013	13,948,164	-
Total long term debt	$ 523,351,966	$ 47,618,697	$ 14,305,486	$ 30,157,013	$ 526,508,164	$ 15,055,000

	Balance June 30, 2018	**Additions**	**Payments**	**Defeased**	**Balance June 30, 2019**	**Amounts Due Within One Year**
2010 - 6.3 - 6.5%	$ 30,000,000	$ -	$ -	$ -	$ 30,000,000	$ -
2010C - 1.18 - 6.1%	61,600,000	-	1,550,000	-	60,050,000	1,600,000
2012A - 2.0 - 4.0%	12,770,000	-	970,000	-	11,800,000	950,000
2012B - 1.25 - 5.0%	60,375,000	-	1,050,000	-	59,325,000	1,100,000
2013A - 2.0 - 4.0%	110,460,000	-	660,000	-	109,800,000	685,000
2014A - 2.0 - 4.0%	28,275,000	-	475,000	-	27,800,000	500,000
2015A - 3.0 - 5.0%	126,400,000	-	5,010,000	-	121,390,000	5,305,000
2015B - 3.0 - 5.0%	28,500,000	-	500,000	-	28,000,000	525,000
2016 - 2.0 - 5.0%	19,200,000	-	450,000	-	18,750,000	475,000
2017A - 3.0 - 5.0%	10,560,000	-	1,460,000	-	9,100,000	1,525,000
2017B - 2.0 - 5.0%	24,750,000	-	490,000	-	24,260,000	515,000
2018 - 3.0 - 5.0%	-	12,000,000	280,000	-	11,720,000	235,000
Total bonds	$ 512,890,000	$ 12,000,000	$ 12,895,000	$ -	$ 511,995,000	$ 13,415,000
Unamortized Premium	11,860,393	101,285	604,712	-	11,356,966	-
Total long term debt	$ 524,750,393	$ 12,101,285	$ 13,499,712	$ -	$ 523,351,966	$ 13,415,000

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Debt service over remaining term of the debt is as follows:

Fiscal Year		**Principal**	**Total Interest**	**Grand Total**
2021		$ 15,055,000	$ 19,152,019	$ 34,207,019
2022		15,595,000	18,587,884	34,182,884
2023		16,305,000	17,850,241	34,155,241
2024		17,070,000	17,089,944	34,159,944
2025		17,685,000	16,467,418	34,152,418
2026-2030		87,890,000	72,855,635	160,745,635
2031-2035		105,995,000	55,536,950	161,531,950
2036-2040		125,705,000	34,460,285	160,165,285
2041-2045		82,205,000	12,016,860	94,221,860
2046-2050		29,055,000	2,334,244	31,389,244
	Total	$ 512,560,000	$ 266,351,480	$ 778,911,480

The Division has pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments when due. The bond covenants relating to the Wastewater Revenue Bonds require the establishment of a Wastewater Bond Fund for the payment of principal and interest requirements. As of June 30, 2020, those bond covenants had been satisfied.

During fiscal year 2011, KUB's Wastewater Division issued Series 2010C bonds to fund wastewater system capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. These bonds are subject to a reduction in rebate payment amounts which is subject to change based on Congressional action. As of October 1, 2019, the effective reduction in rebate is 5.9 percent.

During fiscal year 2019, KUB's Wastewater Division issued Series 2018 bonds to fund wastewater system capital improvements.

During fiscal year 2020, KUB's Wastewater Division issued Series 2019 bonds to fund wastewater system capital improvements. KUB's Wastewater Division also issued Series 2020 bonds to retire a portion of outstanding Series 2010 bonds as follows. On May 22, 2020, $28.2 million in revenue refunding bonds with an average interest rate of 3.3 percent were issued to currently refund $30 million of outstanding bonds with an average interest rate of 6.4 percent. The net proceeds of $30.3 million (after payment of $0.3 million in issuance costs plus premium of $2.4 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 25 years by $18.9 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $8.8 million.

Other liabilities consist of the following:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Accrued compensated absences	$ 1,662,272	$ 3,083,833	$ (2,867,149)	$ 1,878,956
Customer advances for construction	253,025	8,249	-	261,274
Other	77,920	198,067	(195,546)	80,441
	$ 1,993,217	$ 3,290,149	$ (3,062,695)	$ 2,220,671

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
Accrued compensated absences	$ 1,348,345	$ 3,555,987	$ (3,242,060)	$ 1,662,272
Customer advances for construction	4,600	248,425	-	253,025
Other	66,723	201,709	(190,512)	77,920
	$ 1,419,668	$ 4,006,121	$ (3,432,572)	$ 1,993,217

7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

2021	$ 50,724
2022	23,188
2023	3,429
2024	3,017
2025	3,017
Total operating minimum lease payments	$ 83,375

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8. Capital Assets

Capital asset activity was as follows:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
Pumping & Treatment Plant	$ 242,699,904	$ 12,820,889	$ (1,164,159)	$ 254,356,634
Collection Plant				
Mains and Metering	547,107,036	23,633,561	(5,596,872)	565,143,725
Mains and Metering - Meters	903,570	71,471	-	975,041
Other Accounts	80,348,716	-	-	80,348,716
Total Collection Plant	$ 628,359,322	$ 23,705,032	$ (5,596,872)	$ 646,467,482
Total General Plant	30,261,775	1,238,188	(550,938)	30,949,025
Total Wastewater Plant	$ 901,321,001	$ 37,764,109	$ (7,311,969)	$ 931,773,141
Less accumulated depreciation	(209,993,338)	(20,295,530)	7,326,322	(222,962,546)
Net Plant Assets	$ 691,327,663	$ 17,468,579	$ 14,353	$ 708,810,595
Work In Progress	61,846,449	53,580,779	(37,597,868)	77,829,360
Total Net Plant	$ 753,174,112	$ 71,049,358	$ (37,583,515)	$ 786,639,955

	Balance June 30, 2018	Increase	Decrease	Balance June 30, 2019
Pumping & Treatment Plant	$ 233,870,201	$ 10,938,015	$ (2,108,312)	$ 242,699,904
Collection Plant				
Mains and Metering	533,144,221	16,945,318	(2,982,503)	547,107,036
Mains and Metering - Meters	154,826	748,744	-	903,570
Other Accounts	80,353,716	-	(5,000)	80,348,716
Total Collection Plant	$ 613,652,763	$ 17,694,062	$ (2,987,503)	$ 628,359,322
Total General Plant	29,485,263	947,300	(170,788)	30,261,775
Total Wastewater Plant	$ 877,008,227	$ 29,579,377	$ (5,266,603)	$ 901,321,001
Less accumulated depreciation	(194,989,639)	(19,916,367)	4,912,668	(209,993,338)
Net Plant Assets	$ 682,018,588	$ 9,663,010	$ (353,935)	$ 691,327,663
Work In Progress	37,960,902	51,213,823	(27,328,276)	61,846,449
Total Net Plant	$ 719,979,490	$ 60,876,833	$ (27,682,211)	$ 753,174,112

9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2020 and June 30, 2019, the amount of these liabilities was $378,536 and $420,533, respectively, resulting from the following changes:

		2020		**2019**
Balance, beginning of year	$	420,533	$	400,992
Current year claims and changes in estimates		3,282,496		3,779,393
Claims payments		(3,324,493)		(3,759,852)
Balance, end of year	$	378,536	$	420,533

10. Pension Plan

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	**2018**
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. Of these amounts, $568,881 and $694,466 are attributable to the Wastewater Division. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

Net Pension Liability

The below summarizes the disclosures of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the net pension asset at June 30, 2020 is $4,206,702, and the net pension liability at June 30, 2019 is $1,462,946.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

		2019		2018
Total pension liability	$	226,818,557	$	212,157,951
Plan fiduciary net position		(245,939,932)		(205,508,195)
Plan's net pension liability (asset)	$	(19,121,375)	$	6,649,756
Plan fiduciary net position as a percentage of the total pension liability		108.43%		96.87%

Changes in Net Pension Liability are as follows:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at December 31, 2018	$ 212,157,951	$ 205,508,195	$ 6,649,756
Changes for the year:			
Service cost	6,142,213	-	6,142,213
Interest	16,030,626	-	16,030,626
Changes of Benefits	163,199	-	163,199
Differences between Expected and Actual Experience	(1,054,117)	-	(1,054,117)
Changes of Assumptions	8,473,160	-	8,473,160
Contributions - employer	-	2,871,241	(2,871,241)
Contributions - rollovers	-	3,167,836	(3,167,836)
Contributions - member	-	2,989	(2,989)
Net investment income	-	49,951,894	(49,951,894)
Benefit payments	(15,094,475)	(15,094,475)	-
Administrative expense	-	(467,748)	467,748
Net changes	14,660,606	40,431,737	(25,771,131)
Balances at December 31, 2019	$ 226,818,557	$ 245,939,932	$ (19,121,375)

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	January 1, 2019, rolled forward to December 31, 2019; January 1, 2018, rolled forward to December 31, 2018
Discount rate	7.25% as of December 31, 2019; 7.50% as of December 31, 2018
Salary increase	From 2.50% to 5.65%, based on years of service as of December 31, 2019; from 2.80% to 5.15%, based on years of service as of December 31, 2018
Mortality	115% and 110% of the PubG-2010 table, for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019; 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on an actuarial experience study covering the period January 1, 2014 through December 31, 2018. The discount rate was subsequently reduced from 7.5 percent to 7.25 percent as of the December 31, 2019 measurement date. The Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), effective January 1, 2020.

The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2019 and 2018 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

	Long Term Expected Real Rate of Return	
Asset Class	**2019**	**2018**
Domestic equity	5.5%	5.8%
Non-U.S. equity	6.4%	6.9%
Real estate equity	5.9%	6.0%
Debt securities	1.5%	1.7%
Cash and deposits	0.6%	0.7%

Discount rate
The discount rate used to measure the total pension liability was 7.25 percent as of December 31, 2019, and 7.5 percent as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate
The following presents the net pension liability of the Plan as of December 31, 2019, calculated using the discount rate of 7.25 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.25 percent) or one percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Plan's net pension liability (surplus)	$ 946,692	$ (19,121,375)	$ (36,452,396)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of $2,673,376 (Division's share $588,143).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5.00 years. During the measurement year, there was an experience gain of $1,054,117, with $210,822 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $843,295 (Division's share $185,525). Unrecognized experience gains from prior periods were $2,408,388, of which $1,163,381 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,245,007 (Division's share $273,902).

During the measurement year, there was an assumption change loss of $8,473,160, with $1,694,632 of that recognized in the current year and each of the next four years, resulting in a deferred outflow of $6,778,528 (Division's share $1,491,276). Unrecognized assumption change decreases from prior periods were $1,387,733, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $729,629 (Division's share $160,518).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $34,889,331, of which $6,977,866 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment losses from prior periods were $15,614,774, of which $5,418,519 was recognized as an increase in pension expense in the current year. The combination of unrecognized investment gains this year along with the net unrecognized investment losses from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2019 of $17,715,210 (Division's share $3,897,346). The following table summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $1,292,915 (Division's share $284,441) at June 30, 2020 for employer contributions made between December 31, 2019 and June 30, 2020.

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	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,088,302
Changes in assumptions	6,778,528	729,629
Net difference between projected and actual earnings on pension plan investments	-	17,715,210
Contributions subsequent to measurement date	1,292,915	-
Total	$ 8,071,443	$ 20,533,141
Division's share	$ 1,775,717	$ 4,517,291

$1,292,915 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ (4,595,539)
2022	(3,722,647)
2023	57,633
2024	(5,494,060)
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $4,128,608 (Division's share $908,294).

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5.00 years. During the measurement year, there was an experience gain of $605,649, with $121,129 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $484,520 (Division's share $106,594). Unrecognized experience gains from prior periods were $2,966,120, of which $1,042,251 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,923,868 (Division's share $423,251).

During the measurement year, there were no benefit changes or assumption changes. Unrecognized assumption change decreases from prior periods were $2,045,837, of which $658,103 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,387,733 (Division's share $305,301).

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $28,364,098, of which $5,672,818 was recognized in the current year and an identical amount will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $8,925,385, of which $1,848,879 was recognized as a decrease in pension expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2018 of $15,614,774 (Division's share $3,435,249).

The following table summarizes the current balances of deferred outflows and deferred inflows of resources. In addition, KUB recorded a deferred outflow of resources of $1,578,332 (Division's share $347,234) at June 30, 2019 for employer contributions made between December 31, 2018 and June 30, 2019.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,408,388
Changes in assumptions	-	1,387,733
Net difference between projected and actual earnings on pension plan investments	15,614,774	-
Contributions subsequent to measurement date	1,578,332	-
Total	$ 17,193,106	$ 3,796,121
Division's share	$ 3,782,483	$ 835,146

11. Qualified Excess Benefit Arrangement

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The Division's share of the total pension liability was $4,452 at June 30, 2020, and $51,015 at June 30, 2019.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease)	
	Total Pension Liability	
Balances at December 31, 2018	$	231,883
Changes for the year:		
Service cost		-
Interest		9,181
Changes of Benefits		(218,272)
Differences between Expected and Actual Experience		34
Changes of Assumptions		13,342
Benefit payments		(15,932)
Net changes		(211,647)
Balances at December 31, 2019	$	20,236

Actuarial Assumptions
The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of

	December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate
The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate
The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	**Current Discount Rate (2.74%)**	**1% Increase (3.74%)**
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA (Division's share $43,801). This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27 (Division's share $6). There was a deferred inflow at the end of the measurement year of $21,675 (Division's share $4,769) from experience gains in prior years and a deferred outflow of $5,473 (Division's share $1,205) from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year (Division's share $48,020). There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674 (Division's share $2,348). There was a deferred inflow at the end of the measurement year of $13,770 (Division's share $3,029) and a deferred outflow of $29,385 (Division's share $6,465) from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020 (Division's share $1,338).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources		Deferred Inflows of Resources	
Differences between expected and actual experience	$	5,500	$	21,675
Changes in assumptions		40,059		13,770
Contributions subsequent to measurement date		6,083		-
Total	$	51,642	$	35,445
Division's share	$	11,362	$	7,798

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021 (Division's share $1,338). Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:		
2021	$	8,289
2022		8,289
2023		(9,140)
2024		2,676
Thereafter		-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA (Division's share $6,499). This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900 (Division's share $6,358). There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years (Division's share $1,806).

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360 (Division's share $4,040). There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years (Division's share $9,697). In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019 (Division's share $1,594).

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources		Deferred Inflows of Resources	
Differences between expected and actual experience	$	8,210	$	28,900
Changes in assumptions		44,077		18,360
Contributions subsequent to measurement date		7,242		-
Total	$	59,529	$	47,260
Division's share	$	13,097	$	10,398

12. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the "401(k) Plan") is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan's assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of 3 percent to 6 percent, depending on years of service, whether they contribute or not.

KUB funded 401(k) matching contributions and nonelective contributions of $2,469,273 (Division's share $543,240) and $2,410,201 (Division's share $530,244), respectively, for the years ended June 30, 2020 and 2019.

13. Other Post-Employment Benefits (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017. For purposes of this disclosure, presentation is on a consolidated basis unless division's share is specified.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the "Rule of 80", the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the OPEB Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust’s Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust’s adopted investment target allocations as set forth in the Trust’s Investment Policy as of June 30, 2020:

Asset Class	Target Allocation
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020 (Division’s share $68,491). No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan’s actuarial valuations as of January 1, 2018, and 2017.

Net OPEB Liability

The below summarizes the disclosures of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* (“GASB 75”), which requires measurement of the net OPEB liability as total OPEB liability less the amount of the Trust’s fiduciary net position. The amounts reported as of June 30 are based on the reporting date for the KUB Other Post-Employment Benefits Plan which is June 30. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and 2019 and the Total OPEB Liability as of the valuation date, January 1, 2019 updated to June 30, 2020, and January 1, 2018 updated to June 30, 2019, respectively. The Division’s share of the total net OPEB liability was $1,669,678 at June 30, 2020 and $318,503 at June 30, 2019. There was one significant event between the valuation date and the measurement date for June 30, 2020 where the discount rate was reduced from 7.5% to 7.25%.

The components of the net OPEB liability of the Trust are as follows as of June 30:

	2020	**2019**
Total OPEB liability	$ 54,544,240	$ 50,197,938
Plan fiduciary net position	46,954,793	48,750,196
Net OPEB liability	$ 7,589,447	$ 1,447,742
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%

Changes in Net OPEB Liability are as follows:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB Liability (Asset) (a) - (b)
Balances at June 30, 2019	$ 50,197,938	$ 48,750,196	$ 1,447,742
Changes for the year:			
Service cost	256,270	-	256,270
Interest	3,672,291	-	3,672,291
Changes of Benefits	(202,408)	-	(202,408)
Differences between Expected and Actual Experience	43,902	-	43,902
Changes of Assumptions	3,604,843	-	3,604,843
Contributions - employer	-	311,324	(311,324)
Contributions - member	-	-	-
Net investment income	-	975,155	(975,155)
Benefit payments	(3,028,596)	(3,028,596)	-
Administrative expense	-	(53,286)	53,286
Net changes	4,346,302	(1,795,403)	6,141,705
Balances at June 30, 2020	$ 54,544,240	$ 46,954,793	$ 7,589,447

Actuarial assumptions
The total OPEB liability was determined by actuarial valuations, using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation dates:	January 1, 2019, updated to June 30, 2020; January 1, 2018, updated to June 30, 2019
Discount rate:	7.25% as of January 1, 2019; 7.5% as of January 1, 2018
Healthcare cost trend rates:	Pre-Medicare: 7.83% grading down to 4.50% over 19 years as of January 1, 2019; 8.00% grading down to 4.50% over 20 years as of January 1, 2018 Medicare: 6.88% grading down to 4.50% over 19 years as of January 1, 2019; 7.00% grading down to 4.50% over 20 years as of January 1, 2018 Administrative expenses: 3.0% per year

Salary increases:	From 2.50% to 5.65%, based on years of service as of January 1, 2019; From 2.80% to 5.15%, based on years of service as of January 1, 2018
Mortality:	115% and 110% of the Public Sector Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table (PubG-2010) for ages prior to the start of the Health Annuitant Mortality Table, both projected using scale MP2018 fully generational as of January 1, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of January 1, 2018
Inflation:	2.5% as of January 1, 2019; 2.8% as of January 1, 2018

The actuarial assumptions used in the January 1, 2019 and January 1, 2018 valuations were based on the results of actuarial experience studies for the periods January 1, 2014 through December 31, 2018 and January 1, 2009 through December 31, 2013, respectively. The discount rate was subsequently reduced to 7.25 percent from 7.50 percent as of January 1, 2020; therefore, the new rate was used to calculate the OPEB liability as of June 30, 2020.

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Trust investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return may be lower in periods of current strong performance due to future valuations that mean revert to the long-term average. Best estimates of arithmetic real rates of return for each major asset class included in the Trust's target asset allocation (see the discussion of the Trust's Investment Policy) are summarized in the chart below.

	Long Term Expected Real Rate of Return	
Asset Class	**2020**	**2019**
Domestic equity	5.4%	5.5%
International equity	6.4%	6.4%
Real estate equity	5.8%	5.9%
Debt securities	0.2%	1.5%
Cash and deposits	(0.2%)	0.6%

Discount rate

The discount rate used to measure the total OPEB liability was 7.25 percent and 7.5 percent as of June 30, 2020 and 2019, respectively. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on Trust investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the net OPEB liability to changes in the discount rate.
The following presents the net OPEB liability of the Trust as of June 30, 2020, calculated using the discount rate of 7.25 percent, as well as what the Trust's net OPEB liability would be if it were calculated using a discount rate that is 1 percent lower (6.25 percent) or 1 percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Net OPEB liability	$ 12,643,555	$ 7,589,447	$ 3,282,461

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.
The following presents the net OPEB liability of the Trust as of June 30, 2020, as well as what the Trust's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1 percent lower or 1 percent higher than the current rate:

	1% Decrease	**Baseline Trends**	**1% Increase**
Net OPEB liability	$ 2,482,856	$ 7,589,447	$ 13,485,387

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2020, KUB recognized OPEB expense of $4,767,499 (Division's share $1,048,850).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $43,902, with $21,951 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $21,951 (Division's share $4,829). Unrecognized experience losses from prior periods were $499,549, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were benefit changes that decreased the expense by $202,408. There was an increase in the Total OPEB Liability due to assumption changes of $3,604,843, with $1,802,422 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,802,421 (Division's share $396,533). Unrecognized assumption changes from prior periods were $1,615,800, of which the entire amount is recognized as an increase in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $2,579,092, of which $515,818 was recognized in the current year and will be recognized in each of the next four years, resulting in a deferred outflow of resources as of June 30, 2020 of $2,063,274 (Division's share $453,920). Net unrecognized investment losses from prior periods were $377,831, of which $86,767 was recognized as an increase in OPEB expense in the current year and resulting in a net deferred outflow of $291,064 (Division's share $64,034). The following table summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 21,951	$ -
Changes in assumptions	1,802,421	-
Net difference between projected and actual earnings on OPEB plan investments	2,354,338	-
Total	$ 4,178,710	$ -
Division's share	$ 919,316	$ -

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:	
2021	$ 2,426,957
2022	602,586
2023	633,347
2024	515,820
2025	-
Thereafter	-

For the year ended June 30, 2019, KUB recognized OPEB expense of $3,046,377 (Division's share $670,203).

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $999,098, with $499,549 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $499,549 (Division's share $109,901). Unrecognized experience losses from prior periods were $662,384, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were no benefit changes. There was an increase in the Total OPEB Liability due to assumption changes of $3,231,601, with $1,615,801 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,615,800 (Division's share $355,476). Unrecognized assumption changes from prior periods were ($198,590), of which the entire amount is recognized as a decrease in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $587,645, of which $117,529 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $123,047, of which $30,762 was recognized as a decrease in OPEB expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on OPEB plan investments as of June 30, 2019 of $377,831 (Division's share $83,123). The table on the next page summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 499,549	$ -
Changes in assumptions	1,615,800	-
Net difference between projected and actual earnings on OPEB plan investments	377,831	-
Total	$ 2,493,180	$ -
Division's share	$ 548,500	$ -

14. Related Party Transactions

The Division, in the normal course of operations, is involved in transactions with the City of Knoxville and with other divisions of KUB. Such transactions for the years ended June 30, 2020 and 2019 are summarized as follows:

	2020	**2019**
City of Knoxville		
Amounts billed by the Division for utilities and related services	$ 958,288	$ 1,017,609
Payments by the Division in lieu of property tax	4,650,629	4,429,170
Payments by the Division for services provided	1,331,081	1,815,100
Other divisions of KUB		
Amounts billed to other divisions for utilities and related services provided	375,057	332,749
Interdivisional rental expense	729,961	280,894
Interdivisional rental income	164,999	95,005
Amounts billed to the Division by other divisions for utilities services provided	3,874,660	3,527,629

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were as follows:

	2020	**2019**
Accounts receivable	$ 41,586	$ 32,537

15. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases, which were effective October 2014, October 2015, and October 2016, and three 5 percent rate increases, which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

16. Risks and Uncertainties

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation as federal, state, and local governments react to the public health crisis, creating significant uncertainties in the economy. This situation is rapidly changing, and additional impacts may arise. While the disruption is currently expected to be temporary, there is uncertainty around its duration. The ultimate future impact, if any, of the pandemic on results of operations, financial position, liquidity or capital resources cannot be reasonably estimated at this time.

Knoxville Utilities Board Wastewater Division

Required Supplementary Information – Schedule of Changes in Net Pension Liability and Related Ratios

June 30, 2020

	*Year ended December 31					
	2019	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability						
Service cost	$ 6,142,213	$ 5,095,488	$ 4,607,486	$ 4,226,985	$ 4,157,062	$ 4,092,808
Interest	16,030,626	15,344,193	15,015,282	14,966,559	14,812,784	14,698,657
Changes of benefit terms	163,199	-	-	-	-	-
Differences between expected and actual experience	(1,054,117)	(605,649)	(1,087,161)	(2,233,762)	(1,890,334)	-
Changes of assumptions	8,473,160	-	(357,633)	(2,932,883)	-	-
Benefit payments, including refunds of member contributions	(15,094,475)	(15,274,814)	(14,969,979)	(14,138,511)	(15,350,926)	(15,533,167)
Net change in total pension liability	14,660,606	4,559,218	3,207,995	(111,612)	1,728,586	3,258,298
Total pension liability - beginning	212,157,951	207,598,733	204,390,738	204,502,350	202,773,764	199,515,466
Total pension liability - ending (a)	$ 226,818,557	$ 212,157,951	$ 207,598,733	$ 204,390,738	$ 204,502,350	$ 202,773,764
Plan fiduciary net position						
Contributions - employer	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contributions - participants	3,170,825	2,081,125	1,488,632	555,075	487,546	475,854
Net investment income	49,938,315	(11,748,396)	32,360,219	13,788,263	(95,430)	22,292,369
Other additions	13,579	62,616	82,239	45,848	30,879	29,733
Benefit payments, including refunds of member contributions	(15,030,475)	(15,174,814)	(14,895,979)	(14,044,511)	(15,274,926)	(15,405,167)
Administrative expense	(467,748)	(445,916)	(385,282)	(441,332)	(397,160)	(378,085)
Death benefits	(64,000)	(100,000)	(74,000)	(94,000)	(76,000)	(128,000)
Net change in plan fiduciary net position**	40,431,737	(21,868,910)	22,862,426	5,052,489	(9,333,204)	12,795,245
Plan fiduciary net position - beginning**	205,508,195	227,377,105	204,514,679	199,462,190	208,795,394	196,000,149
Plan fiduciary net position - ending (b)**	$ 245,939,932	$ 205,508,195	$ 227,377,105	$ 204,514,679	$ 199,462,190	$ 208,795,394
Plan's net pension liability - ending (a) - (b)	$ (19,121,375)	$ 6,649,756	$ (19,778,372)	$ (123,941)	$ 5,040,160	$ (6,021,630)
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%	109.53%	100.06%	97.54%	102.97%
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Plan's net pension liability as a percentage of covered payroll	(47.48%)	15.78%	(45.67%)	(0.28%)	11.34%	(13.66%)

Notes to Schedule:

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

Knoxville Utilities Board Wastewater Division
Required Supplementary Information – Schedule of Employer Pension Contributions
June 30, 2020

	*Year ended December 31					
	2019	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contribution in relation to the actuarially determined contribution	2,871,241	3,456,475	4,286,597	5,243,146	5,991,887	5,908,541
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Contributions as a percentage of covered payroll	7.13%	8.20%	9.90%	11.80%	13.48%	13.41%

Notes to Schedule:

Timing:	Actuarially determined contributions for a Plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior Plan years.
Valuation Dates:	January 1, 2018 and January 1, 2017

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Individual entry age
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 23 years remaining (24 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative.
Discount rate:	7.5%
Salary increases:	2.80% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014. Please refer to prior year's audited financial statements for prior methods and assumptions.

Knoxville Utilities Board Wastewater Division

Required Supplementary Information – Schedule of Changes in Net OPEB Liability and Related Ratios

June 30, 2020

	*Year ended June 30		
	2020	**2019**	**2018**
Total OPEB liability			
Service cost	$ 256,270	$ 270,515	$ 202,603
Interest	3,672,291	3,624,737	3,295,240
Change of benefit terms	(202,408)	-	-
Differences between expected and actual experience	43,902	999,098	1,324,769
Changes of assumptions	3,604,843	3,231,601	(397,180)
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Net change in total OPEB liability	4,346,302	4,593,507	1,126,693
Total OPEB liability - beginning	50,197,938	45,604,431	44,477,738
Total OPEB liability - ending (a)	$ 54,544,240	$ 50,197,938	$ 45,604,431
Plan fiduciary net position			
Contributions - employer	$ 311,324	$ -	$ -
Net investment income	975,155	2,981,928	3,705,473
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Administrative expense	(53,286)	(54,787)	(51,668)
Net change in plan fiduciary net position	(1,795,403)	(605,303)	355,066
Plan fiduciary net position - beginning	48,750,196	49,355,499	49,000,433
Plan fiduciary net position - ending (b)	$ 46,954,793	$ 48,750,196	$ 49,355,499
Net OPEB liability (asset) - ending (a) - (b)	$ 7,589,447	$ 1,447,742	$ (3,751,068)
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%	108.23%
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Net OPEB liability (asset) as a percentage of covered employee payroll	32.48%	5.95%	(15.84%)

Notes to Schedule:

* Information not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.

Knoxville Utilities Board Wastewater Division

Required Supplementary Information – Schedule of Employer OPEB Contributions

June 30, 2020

	*Year ended June 30		
	2020	2019	2018
Actuarially determined contribution	$ 311,324	$ -	$ -
Contribution in relation to the annual required contribution	311,324	-	-
Contribution deficiency/(excess)	$ -	$ -	$ -
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Contributions as a percentage of covered employee payroll	1.33%	0.00%	0.00%

Notes to Schedule:

Valuation Date:	January 1, 2018 and January 1, 2017
Timing:	Actuarially determined contribution rates are calculated based on the actuarial valuation completed 18 months before the beginning of the fiscal year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Entry age normal
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 18 years remaining as of January 1, 2018 (19 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative
Discount rate:	7.5%
Healthcare cost trend rate:	Pre-Medicare: 8% grading down to 4.5% over 20 years as of January 1, 2018; 7.83% to 4.5% over 19 years as of January 1, 2017 Medicare: 7% grading down to 4.5% over 20 years as of January 1, 2018; 6.88% to 4.5% over 19 years as of January 1, 2017 Administrative expenses: 3.0% per year
Salary increases:	From 2.8% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%
Investment rate of return:	7.5%
Retirement age:	2% at ages 50-57 at January 1, 2018 and January 1, 2017, respectively, grading up to 100% at age 70

* Schedule of Employer Contribution information is not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.
Please refer to prior year's audited financial statement for prior methods and assumptions.

Knoxville Utilities Board Wastewater Division
Required Supplementary Information – Qualified Governmental Excess Benefit Arrangement
Schedule of Changes in Total Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31			
	2019	2018	2017	2016
Total pension liability				
Service cost	$ -	$ 941	$ 584	$ -
Interest (includes interest on service cost)	9,181	9,676	7,535	-
Changes of benefit terms	(218,272)	-	-	185,077
Differences between expected and actual experience	34	(36,125)	13,684	-
Changes of assumptions	13,342	(22,950)	73,461	-
Benefit payments, including refunds of member contributions	(15,932)	-	-	-
Net change in total pension liability	(211,647)	(48,458)	95,264	185,077
Total pension liability - beginning	231,883	280,341	185,077	-
Total pension liability - ending	$ 20,236	$ 231,883	$ 280,341	$ 185,077
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747
Total pension liability as a percentage of covered payroll	0.05%	0.55%	0.65%	0.42%

Notes to Schedule:

* There are no assets accumulated in a trust that meet the criteria in paragraph 4 of GASB 73 to pay related benefits.

Knoxville Utilities Board Wastewater Division
Supplemental Information – Schedule of Expenditures of Federal Awards and State Financial Assistance
June 30, 2020

Federal Grantor/ Pass-Through Grantor	Program Name	CFDA Number	Pass-Through Entity Identifying Number	Expenditures
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00266	$ 18,000
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00446	$ 36,418
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00468	$ 21,653
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00472	$ 60,398
		Total Program 97.036		$ 136,469
		Total Federal Awards		$ 136,469

NOTE 1 - BASIS OF PRESENTATION

The Schedule of Expenditures of Federal Awards and State Financial Assistance includes the federal award related grant activity of Knoxville Utilities Board and is presented on the accrual basis of accounting. The expenditures reported in the Schedule of Expenditures and State Financial Assistance were incurred in fiscal years 2019 and 2020. In accordance with the requirements of CFDA 97.036, the expenditures have been reported in fiscal year 2020 when the grant was approved by the Federal Emergency Management Association. KUB did not elect to use 10% de minimis indirect cost rate.

Knoxville Utilities Board Wastewater Division
Supplemental Information – Schedule of Debt Maturities by Fiscal Year
June 30, 2020

Continued on Next Page

	2010C			2012A		2012B		2013A		2014A	
FY	**Principal**	**Interest**	**Rebate***	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**
20-21	1,650,000	3,394,270	1,187,994	1,085,000	434,000	1,150,000	1,862,250	710,000	3,459,500	525,000	1,019,119
21-22	1,700,000	3,325,465	1,163,912	1,175,000	390,600	1,200,000	1,804,750	740,000	3,431,100	550,000	998,119
22-23	1,750,000	3,246,925	1,136,424	1,165,000	343,600	1,250,000	1,744,750	770,000	3,401,500	575,000	981,619
23-24	1,850,000	3,162,575	1,106,902	1,250,000	297,000	1,300,000	1,694,750	4,600,000	3,370,700	600,000	964,369
24-25	1,950,000	3,065,450	1,072,908	1,140,000	247,000	1,375,000	1,642,750	4,900,000	3,232,700	625,000	946,369
25-26	2,375,000	2,961,125	1,036,394	1,190,000	201,400	1,425,000	1,587,750	5,040,000	3,085,700	650,000	927,619
26-27	2,500,000	2,830,738	990,758	1,235,000	153,800	1,500,000	1,530,750	5,200,000	2,934,500	700,000	908,119
27-28	2,600,000	2,688,488	940,970	1,280,000	104,400	1,575,000	1,470,750	6,305,000	2,778,500	725,000	880,119
28-29	2,725,000	2,536,388	887,736	1,330,000	53,200	1,625,000	1,423,500	6,535,000	2,573,588	750,000	851,119
29-30	2,850,000	2,376,975	831,942			1,700,000	1,374,750	8,315,000	2,377,538	775,000	821,119
30-31	2,975,000	2,210,250	773,588			1,775,000	1,323,750	8,550,000	2,128,088	825,000	790,119
31-32	3,100,000	2,031,750	711,112			1,875,000	1,270,500	8,840,000	1,871,588	850,000	757,119
32-33	3,250,000	1,845,750	646,012			1,950,000	1,214,250	9,120,000	1,606,388	900,000	723,119
33-34	3,375,000	1,650,750	577,762			2,025,000	1,155,750	9,390,000	1,332,788	925,000	687,119
34-35	3,550,000	1,448,250	506,882			2,125,000	1,095,000	9,705,000	1,015,875	975,000	650,119
35-36	3,700,000	1,235,250	432,338			2,225,000	1,031,250	10,025,000	688,331	1,025,000	611,119
36-37	3,875,000	1,009,550	353,342			2,325,000	964,500	10,370,000	349,988	1,075,000	570,119
37-38	4,050,000	773,175	270,612			2,425,000	894,750			500,000	527,119
38-39	4,225,000	526,125	184,144			2,550,000	822,000			500,000	507,119
39-40	4,400,000	268,400	93,940			2,650,000	745,500			500,000	488,994
40-41						2,775,000	666,000			1,175,000	470,869
41-42						2,900,000	582,750			1,225,000	428,275
42-43						3,025,000	495,750			1,300,000	382,950
43-44						3,150,000	405,000			1,350,000	334,850
44-45						3,300,000	310,500			1,400,000	284,900
45-46						3,450,000	211,500			1,475,000	233,100
46-47						3,600,000	108,000			1,550,000	178,525
47-48										1,600,000	121,175
48-49										1,675,000	61,975
49-50											
Total	$ 58,450,000	$ 42,587,649	$ 14,905,672	$ 10,850,000	$ 2,225,000	$ 58,225,000	$ 29,433,500	$ 109,115,000	$ 39,638,372	$ 27,300,000	$ 18,106,374

*Series 2010c bonds were issued as federally taxable Build America Bonds. KUB will receive a 35 percent interest rebate payment from the United States Government for each interest payment. Effective October 1, 2019 these bonds became subject to a 5.9% reduction in rebate payment amounts due to the United States Government sequestration. The sequestration is effective until intervening Congressional action, at which time the sequestration rate is subject to change.

Knoxville Utilities Board Wastewater Division
Supplemental Information – Schedule of Debt Maturities by Fiscal Year
June 30, 2020

Continued from Previous Page

	2015A		2015B		2016		2017A		2017B	
FY	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**	**Principal**	**Interest**
20-21	5,460,000	4,452,012	525,000	1,063,938	475,000	512,531	1,605,000	341,550	540,000	771,212
21-22	5,675,000	4,179,012	550,000	1,042,938	500,000	488,781	1,685,000	261,300	570,000	744,213
22-23	6,005,000	3,895,262	575,000	1,020,936	525,000	463,781	1,775,000	177,050	600,000	715,712
23-24	3,720,000	3,595,012	600,000	997,938	550,000	437,531	595,000	88,300	630,000	685,713
24-25	3,785,000	3,483,412	625,000	973,938	575,000	421,031	615,000	70,450	660,000	654,212
25-26	1,425,000	3,369,864	650,000	955,188	575,000	409,531	640,000	52,000	690,000	621,213
26-27	1,490,000	3,323,550	675,000	935,688	600,000	398,031	660,000	26,400	715,000	600,512
27-28	1,405,000	3,271,400	700,000	915,438	600,000	386,032			725,000	586,213
28-29	1,450,000	3,222,226	725,000	887,438	625,000	374,032			745,000	570,806
29-30	1,455,000	3,178,726	775,000	858,438	625,000	361,532			760,000	553,112
30-31	1,515,000	3,135,076	800,000	827,436	650,000	348,250			785,000	530,313
31-32	1,520,000	3,089,626	825,000	795,436	675,000	333,625			805,000	506,762
32-33	1,580,000	3,042,125	850,000	762,436	675,000	318,438			830,000	482,613
33-34	1,635,000	2,992,750	900,000	733,750	700,000	302,406			855,000	457,712
34-35	1,690,000	2,939,612	925,000	703,375	700,000	284,906			880,000	432,063
35-36	1,750,000	2,884,688	975,000	671,000	725,000	267,406			910,000	405,662
36-37	1,825,000	2,827,812	1,000,000	632,000	750,000	249,282			935,000	378,363
37-38	13,420,000	2,768,500	500,000	592,000	775,000	229,594			965,000	350,312
38-39	13,895,000	2,298,800	500,000	572,000	775,000	209,250			995,000	320,156
39-40	14,480,000	1,743,000	500,000	552,000	800,000	186,000			1,025,000	289,063
40-41	15,130,000	1,236,200	1,100,000	532,000	825,000	162,000			1,055,000	257,032
41-42	15,775,000	631,000	1,150,000	488,000	850,000	137,250			1,090,000	224,062
42-43			1,200,000	442,000	875,000	111,750			1,125,000	190,000
43-44			1,250,000	394,000	900,000	85,500			1,160,000	154,844
44-45			1,300,000	344,000	950,000	58,500			1,195,000	118,594
45-46			1,350,000	292,000	1,000,000	30,000			1,230,000	81,250
46-47			1,400,000	238,000					1,270,000	41,275
47-48			1,450,000	182,000						
48-49			1,525,000	124,000						
49-50			1,575,000	63,000						
Total	$ 116,085,000	$ 65,559,665	$ 27,475,000	$ 19,592,311	$ 18,275,000	$ 7,566,970	$ 7,575,000	$ 1,017,050	$ 23,745,000	$ 11,722,994

Knoxville Utilities Board Wastewater Division
Supplemental Information – Schedule of Debt Maturities by Fiscal Year
June 30, 2020

Continued from Previous Page

	2018		2019		2020		TOTALS		Grand Total (P + I)	Grand Total (Less Rebates)
FY	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest		
20-21	245,000	401,756	300,000	552,450	785,000	887,431	15,055,000	19,152,019	34,207,019	33,019,025
21-22	255,000	389,506	315,000	537,450	680,000	994,650	15,595,000	18,587,884	34,182,884	33,018,972
22-23	270,000	376,756	330,000	521,700	715,000	960,650	16,305,000	17,850,241	34,155,241	33,018,817
23-24	280,000	365,956	345,000	505,200	750,000	924,900	17,070,000	17,089,944	34,159,944	33,053,042
24-25	290,000	354,756	360,000	487,950	785,000	887,400	17,685,000	16,467,418	34,152,418	33,079,510
25-26	305,000	343,156	380,000	469,950	825,000	848,150	16,170,000	15,832,646	32,002,646	30,966,252
26-27	315,000	330,956	400,000	450,950	865,000	806,900	16,855,000	15,230,894	32,085,894	31,095,136
27-28	325,000	321,506	420,000	430,950	910,000	763,650	17,570,000	14,597,446	32,167,446	31,226,476
28-29	335,000	311,756	435,000	409,950	955,000	718,150	18,235,000	13,932,153	32,167,153	31,279,417
29-30	345,000	301,706	455,000	388,200	1,005,000	670,400	19,060,000	13,262,496	32,322,496	31,490,554
30-31	355,000	291,356	475,000	370,000	1,055,000	620,150	19,760,000	12,574,788	32,334,788	31,561,200
31-32	365,000	280,706	495,000	351,000	1,095,000	577,950	20,445,000	11,866,062	32,311,062	31,599,950
32-33	375,000	269,756	515,000	331,200	1,140,000	534,150	21,185,000	11,130,225	32,315,225	31,669,213
33-34	390,000	258,038	530,000	315,750	1,175,000	499,950	21,900,000	10,386,763	32,286,763	31,709,001
34-35	400,000	245,362	545,000	299,850	1,210,000	464,700	22,705,000	9,579,112	32,284,112	31,777,230
35-36	415,000	232,364	560,000	283,500	1,245,000	428,400	23,555,000	8,738,970	32,293,970	31,861,632
36-37	425,000	218,874	580,000	266,700	1,285,000	391,050	24,445,000	7,858,238	32,303,238	31,949,896
37-38	440,000	204,532	595,000	249,300	1,320,000	352,500	24,990,000	6,941,782	31,931,782	31,661,170
38-39	455,000	189,682	615,000	231,450	1,360,000	312,900	25,870,000	5,989,482	31,859,482	31,675,338
39-40	475,000	173,756	615,000	213,000	1,400,000	272,100	26,845,000	4,931,813	31,776,813	31,682,873
40-41	490,000	157,132	635,000	194,550	1,445,000	230,100	24,630,000	3,905,883	28,535,883	28,535,883
41-42	505,000	139,982	655,000	175,500	1,490,000	186,750	25,640,000	2,993,569	28,633,569	28,633,569
42-43	525,000	122,306	675,000	155,850	1,530,000	142,050	10,255,000	2,042,656	12,297,656	12,297,656
43-44	540,000	103,932	700,000	135,600	1,580,000	96,150	10,630,000	1,709,876	12,339,876	12,339,876
44-45	560,000	85,032	720,000	114,600	1,625,000	48,750	11,050,000	1,364,876	12,414,876	12,414,876
45-46	580,000	65,432	740,000	93,000			9,825,000	1,006,282	10,831,282	10,831,282
46-47	600,000	44,406	765,000	70,800			9,185,000	681,006	9,866,006	9,866,006
47-48	625,000	22,656	785,000	47,850			4,460,000	373,681	4,833,681	4,833,681
48-49			810,000	24,300			4,010,000	210,275	4,220,275	4,220,275
49-50							1,575,000	63,000	1,638,000	1,638,000
Total	$ 11,485,000	$ 6,603,114	$ 15,750,000	$ 8,678,550	$ 28,230,000	$ 13,619,931	$ 512,560,000	$ 266,351,480	$ 778,911,480	$ 764,005,808

Knoxville Utilities Board Wastewater Division
Supplemental Information – Schedule of Changes in Long-term Debt by Individual Issue
June 30, 2020

Description of Indebtedness	Original Amount of Issue	Interest Rate	Date of Issue	Last Maturity Date	Outstanding Balance 7/1/2019	Issued During Period	Paid/Matured During Period	Refunded During Period	Outstanding Balance 6/30/2020
Business-Type Activities									
BONDS PAYABLE									
Payable through Wastewater Fund									
Revenue Bond, Series 2010	30,000,000	6.3-6.5	02/10/10	04/01/45	$ 30,000,000	$	$ -	$ 30,000,000	$ -
Revenue Bond, Series 2010C	70,000,000	1.18-6.1	12/08/10	04/01/40	60,050,000		1,600,000		58,450,000
Revenue Bond Refunding, Series 2012A	17,070,000	2.0-4.0	04/20/12	04/01/29	11,800,000		950,000		10,850,000
Revenue Bond, Series 2012B	65,000,000	1.25-5.0	12/18/12	04/01/47	59,325,000		1,100,000		58,225,000
Revenue Bond Refunding, Series 2013A	113,340,000	2.0-4.0	03/15/13	04/01/37	109,800,000		685,000		109,115,000
Revenue Bond, Series 2014A	30,000,000	2.0-4.0	09/18/14	04/01/49	27,800,000		500,000		27,300,000
Revenue Bond Refunding, Series 2015A	129,825,000	3.0-5.0	05/01/15	04/01/42	121,390,000		5,305,000		116,085,000
Revenue Bond, Series 2015B	30,000,000	3.0-5.0	05/20/15	04/01/50	28,000,000		525,000		27,475,000
Revenue Bond, Series 2016	20,000,000	2.0-5.0	08/05/16	04/01/46	18,750,000		475,000		18,275,000
Revenue Bond Refunding, Series 2017A	11,965,000	3.0-5.0	04/07/17	04/01/27	9,100,000		1,525,000		7,575,000
Revenue Bond, Series 2017B	25,000,000	2.0-5.0	09/15/17	04/01/47	24,260,000		515,000		23,745,000
Revenue Bond, Series 2018	12,000,000	3.0-5.0	09/14/18	04/01/48	11,720,000		235,000		11,485,000
Revenue Bond, Series 2019	16,000,000	3.0-5.0	08/20/19	04/01/49	-	16,000,000	250,000		15,750,000
Revenue Bond Refunding, Series 2020	28,230,000	3.0-5.0	05/22/20	04/01/45	-	28,230,000	-		28,230,000
					$ 511,995,000	$ 44,230,000	$ 13,665,000	$ 30,000,000	$ 512,560,000

Knoxville Utilities Board Wastewater Division
Statistical Information – Schedule of Insurance in Force
June 30, 2020
(Unaudited)

Insurance coverage is for KUB as a consolidated entity.

Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors' and Officers' Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary
Covers losses resulting from wrongful acts related to KUB's Pension, 401(k), OPEB Trust funds, and Medical Plan. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance
This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident
Covers losses related to employees' business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability
As a government entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers' Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage
KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $575,000 per individual participant.

Knoxville Utilities Board Wastewater Division
Statistical Information – Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
Residential Inside City rate	For wastewater service furnished to premises entirely within the corporate limits of the City of Knoxville:	55,895

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.75 Per 100 Cubic Feet
Over	2	100 Cubic Feet Per Month at $8.70 Per 100 Cubic Feet

Additional Monthly Customer Charge

5/8" meter	$	35.90
1" meter		50.90
1 1/2" meter		62.90
2" meter		82.90

Rate Class	Base Charge	Number of Customers
Non-Residential Inside City rate	For wastewater service furnished to premises entirely within the corporate limits of the City of Knoxville:	7,647

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.00 Per 100 Cubic Feet
Next	8	100 Cubic Feet Per Month at $12.95 Per 100 Cubic Feet
Next	90	100 Cubic Feet Per Month at $11.55 Per 100 Cubic Feet
Next	300	100 Cubic Feet Per Month at $9.90 Per 100 Cubic Feet
Next	4,600	100 Cubic Feet Per Month at $8.05 Per 100 Cubic Feet
Next	5,000	100 Cubic Feet Per Month at $4.75 Per 100 Cubic Feet

Additional Monthly Customer Charge

5/8" meter	$	35.90
1" meter		50.90
1 1/2" meter		62.90
2" meter		82.90
3" meter		161.00
4" meter		264.00
6" meter		562.00
8" meter		977.00
10" meter		1,481.00
12" meter		2,182.00

Knoxville Utilities Board Wastewater Division
Statistical Information – Schedule of Current Rates in Force
June 30, 2020
(Unaudited)

Rate Class	Base Charge	Number of Customers
Residential Outside City rate	For wastewater service furnished to premises entirely or partly outside the corporate limits of the City of Knoxville:	8,405

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.90 Per 100 Cubic Feet
Over	2	100 Cubic Feet Per Month at $9.30 Per 100 Cubic Feet

Additional Monthly Customer Charge

5/8" meter	$	39.90
1" meter		53.90
1 1/2" meter		70.90
2" meter		90.90

Rate Class	Base Charge	Number of Customers
Non-Residential Outside City rate	For wastewater service furnished to premises entirely or partly outside the corporate limits of the City of Knoxville:	299

Commodity Charge

First	2	100 Cubic Feet Per Month at $1.15 Per 100 Cubic Feet
Next	8	100 Cubic Feet Per Month at $14.25 Per 100 Cubic Feet
Next	90	100 Cubic Feet Per Month at $12.65 Per 100 Cubic Feet
Next	300	100 Cubic Feet Per Month at $10.80 Per 100 Cubic Feet
Next	4,600	100 Cubic Feet Per Month at $9.00 Per 100 Cubic Feet
Next	5,000	100 Cubic Feet Per Month at $5.35 Per 100 Cubic Feet

Additional Monthly Customer Charge

5/8" meter	$	39.90
1" meter		53.90
1 1/2" meter		70.90
2" meter		90.90
3" meter		183.00
4" meter		291.00
6" meter		618.00
8" meter		1,075.00
10" meter		1,624.00
12" meter		2,396.00

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Wastewater Division (the Division) of the Knoxville Utilities Board, a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements, and have issued our report thereon dated October 29, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Division's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Division's internal control. Accordingly, we do not express an opinion on the effectiveness of the Division's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Division's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Wastewater Division of the Knoxville Utilities Board
Knoxville, Tennessee

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Division's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Division's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board Wastewater Division
Schedule of Findings and Questioned Costs
June 30, 2020

Section I -- Summary of Auditor's Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting: Material weakness(es) identified?	No
Significant deficiency(s) identified not considered to be material weaknesses?	None reported
Noncompliance material to financial statements:	No

Section II -- Financial Statement Findings

None reported.

Section III – Findings Required by the State of Tennessee Audit Manual

None reported.

Section IV -- Summary Schedule of Prior Year Audit Findings

2019-01

In July 2018, an employee in the KUB Underground Construction Department in the Wastewater Division used a KUB-owned backhoe to take a front-loader full of asphalt off KUB property for use at his personal residence. The value of the asphalt was estimated at $200. The employee resigned in lieu of termination and the stolen materials were written-off.

APPENDIX F-1

GENERAL INFORMATION

THE CITY OF KNOXVILLE

THE CITY

The City of Knoxville (the “City”) was founded in 1791 and incorporated in 1815. It is governed by a Mayor-Council form of government. The Mayor is the chief executive and administrative officer and is elected by direct vote of the people to a four-year term. The Mayor is responsible for the day-to-day operations of the City and appoints and supervises the heads of all major City departments. The City Council is composed of six district and three at-large members, each elected for a four-year overlapping term. As the City's legislative body, the Council is responsible for acting on ordinances and resolutions which govern the City as well as for the confirmation of members to most boards and commissions. A municipal judge is elected by direct vote to a four-year term and is responsible for the enforcement of certain City ordinances and the administration of the City court system.

On a continuing basis, the City provides a full range of municipal services contemplated by its Charter and various state statutes. Governmental functions include police and fire protection, sanitation services, inspections, engineering, street maintenance, parks and recreation, economic development, and general administrative support systems. The City is also engaged in several proprietary activities and owns and operates (under a separate authority) two municipal airports, utility systems (electric, gas, water and wastewater), an auditorium / coliseum, a convention center, an exhibition center, a public transportation system and several parking facilities.

Knoxville, the county seat, is the largest incorporated municipality in Knox County (the “County”). The City is located on the Tennessee River near the geographic center of East Tennessee and has a land area of approximately 98 square miles within its corporate limits. The 2010 U.S. Census figures show the population of Knox County as being 432,226.

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KNOXVILLE UTILITIES BOARD

HISTORY AND ORGANIZATION

The Knoxville Utilities Board (the "Board" or "KUB") (under its then name of Knoxville Electric Power and Water Board) was organized on March 14, 1939. The present name of Knoxville Utilities Board was adopted in 1947. As originally established, the Board consisted of five members with terms of ten years. A Charter amendment, adopted in compliance with the home rule provisions of the Tennessee Constitution, including approval in a city-wide referendum held November 5, 1974, changed some of the provisions concerning the membership of the Board. The Board was enlarged to seven members. The term for each member was reduced to seven years with the terms being so arranged that the appointment of one member will be made each year. Members of the Board are limited to two seven-year terms.

The selection procedure for a member is initiated by the Board submitting to the Mayor a list of at least five nominees from which list the Mayor selects one nominee to present to the City Council for confirmation or rejection. In case the City Council rejects a nominee, the nominating procedure is repeated until an appointment is made.

The Board operates the City's Water Division (purchased in 1909), the City's Electric Division (purchased in 1939), the City's Gas Division (purchased in 1945), and the City's Wastewater Division (transferred to the Board by referendum in 1987). The joint operation of these four city-owned utilities provides cost savings to each system by reason of joint billing and other operating economies.

KUB's organizational structure has three major functional areas including an Engineering and Operations Division, Finance Division and Administrative Division.

Except as specifically limited by the provisions of the City Charter relating to the Board, the Board is authorized to exercise all powers of the City to construct, acquire, expand, operate, manage, and control the City's electric, gas, water and wastewater systems free from the jurisdiction, direction and control of the Mayor, City Council and its officers.

THE BOARD OF COMMISSIONERS

Members of the Board of Commissioners are:

JERRY W. ASKEW, Ph.D., Chair, Commissioner. President and CEO, Alliance for Better Nonprofits.

JOHN WORDEN, Vice-Chair, Commissioner. Partner, Worden, Rechenbach & Brooke.

CLAUDIE CABALLERO, Commissioner. President and CEO of Centro Hispano de East Tennessee.

KATHY HAMILTON, CPA (inactive), Commissioner.

CELESTE HERBERT, Commissioner. Attorney, Herbert, Meadows and Wall, PLLC.

ADRIENNE SIMPSON-BROWN, Commissioner. Chief United States Probation Officer of the United States District Court for the Eastern District of Tennessee.

TYVI SMALL, Commissioner. Vice Chancellor for Diversity and Engagement, University of Tennessee.

OFFICERS

GABRIEL J. BOLAS II, President and Chief Executive Officer, was appointed to this position in 2018. Mr. Bolas has been with KUB since 1995. He has a B.S. in Electric Engineering, as well as a Masters in Industrial Engineering from the University of Tennessee.

MARK A. WALKER, Senior Vice President and Chief Financial Officer, was appointed to this position in 2011 and serves as the fifth CFO since KUB was formed. Mr. Walker currently serves as Secretary of the Board of Commissioners. He has been with KUB since 1993. Mr. Walker received a B.S. in Finance from the University of Tennessee's College of Business and also received an M.B.A. in Economics from the University of Tennessee.

SUSAN F. EDWARDS, Senior Vice President and Chief Administrative Officer, was appointed to the position in 2013. She has been with KUB since 1997. She has a B.S. in Business Administration from the University of Tennessee.

H. EDWARD BLACK, Senior Vice President and Chief Technology Officer, was appointed to this position in 2003. Mr. Black has been with KUB since 1979. He holds a B.S. in Agriculture and B.A. in Microbiology, as well as an M.B.A. in Management from the University of Tennessee.

DERWIN G. HAGOOD, Senior Vice President and Chief Operating Officer, was appointed to this position in 2017. Mr. Hagood has been with KUB since 1985. He has a B.S. in Civil Engineering from the University of Tennessee.

TIFFANY MARTIN, Vice President and Chief Customer Officer, was appointed to this position in 2021. Mrs. Martin has been with KUB since 2001. She has a B.S. in Business Administration/Marketing from the University of Tennessee.

JOHN W. WILLIAMS III, Senior Vice President of Engineering and Construction was appointed to this position in 2018. Mr. Williams has been with KUB since 1998. He has a B.S. in Business Administration from the University of Tennessee.

INSURANCE

Crime. Coverage for losses resulting from employee dishonesty, robbery, burglary and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors' and Officers' Liability. Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President & CEO, Senior Vice Presidents, and Vice Presidents and Directors) for wrongful acts. Limits of coverage – $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability. Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary. Coverage for losses resulting from wrongful acts related to KUB's Pension, 401(k), and OPEB Trust funds. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability. New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance. This coverage provides protection of KUB's property for fire, extended coverage, vandalism and malicious mischief and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident. Coverage for losses related to employees' business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability. As a governmental entity, KUB's liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers' Compensation. Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage. KUB's employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB's exposure to annual expenses in excess of $575,000 per individual participant.

RETIREMENT PLAN

For more information concerning KUB's retirement and disability plans, please refer to the "Notes to the Financial Statements" attached hereto.

SERVICE AREA

KUB provides electric, water, natural gas and wastewater services for all of Knoxville, and certain utilities in most of Knox County, a substantial area of Union County and a limited area of Grainger, Jefferson, Blount, Anderson, Loudon and Sevier Counties. Knox County has a land area of about 508 square miles of which approximately 98 square miles are within the corporate limits of Knoxville. KUB is the distributor of electric power supplied by the Tennessee Valley Authority (the "TVA"), for natural gas energy purchased from various suppliers, and for water which is taken from the

Tennessee River.

ELECTRIC DIVISION

The Electric Division, which was established in 1939, is owned by the City and operated by KUB. KUB purchases all of its electric power requirements from TVA. During year ended June 30, 2020, sales revenues of the Electric Division totaled $533,434,558, of which $398,229,905 or 75%, was paid to TVA for the purchase of power.

The electric system includes 5,408 miles of service lines, serving a portion of seven different counties. As of June 30, 2020, KUB had 210,393 electric system customers. The Division's outstanding long-term debt, as of June 30, 2020, totaled $305,835,000.

GAS DIVISION

The Gas Division has been owned by the City and operated by KUB since 1945 when it was purchased from City Service Company for $450,000. KUB purchases natural gas from multiple suppliers. During the year ended June 30, 2020, sales revenues of the Gas Division totaled $100,886,993 of which $43,174,882 or 43% was paid to natural gas suppliers and pipelines.

KUB’s natural gas system has 2,499 miles of services mains and has a peak day capacity of 157,381 dekatherms (dth). As of June 30, 2020, KUB had 104,433 gas system customers. The Division’s outstanding long-term debt, as of June 30, 2020 including the current portion, totaled $105,510,000.

WATER DIVISION

In 1939, the City's Electric Power and Water Board, now KUB, was established and granted responsibility for the operation of the city-owned Water and Electric Divisions. The Water Division consists of facilities for the treatment, storage and distribution of water obtained from the Tennessee River. The Water Division distributes water throughout the City of Knoxville, a portion of East Knox County, and other small portions of Knox, Jefferson and Sevier Counties.

During year ended June 30, 2020, the operating revenues of the Water Division totaled $62,473,524. As of June 30, 2020, KUB had 80,961 water system customers. The Division's outstanding long-term debt, as of June 30, 2020 including the current portion, totaled $204,890,000. KUB issued $9 million in water system revenue bonds in October 2020.

WASTEWATER DIVISION

On November 4, 1986, voters in the City elected to transfer operation of the City’s Wastewater Division to KUB, effective July 1, 1987. While the Wastewater Division is a self-sustained financial entity, the operations of both the Water and Wastewater Divisions have been merged to achieve operating efficiencies. The Wastewater Division provides collection and treatment throughout the City and portions of East Knox County.

For the fiscal year ended June 30, 2020, operating revenues for the Wastewater Division totaled $101,335,524. As of June 30, 2020, KUB served 72,246 wastewater system customers. As of

June 30, 2020, including the current portion, the outstanding long-term debt of the Wastewater Division totaled $512,560,000. KUB issued $27.5 million in wastewater system revenue bonds in October 2020.

FEDERAL CONSENT DECREE

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases, which were effective October 2014, October 2015, and October 2016, and three 5 percent rate increases, which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

CENTURY II INFRASTRUCTURE PROGRAM

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

KUB's Century II programs were resumed in 2011, after a break due to the economic recession. At that time, the KUB Board of Commissioners endorsed ten-year funding plans for the electric and water systems, which include a combination of rate increases and debt issues to fully fund the Century II programs. The Board adopted three years of electric and water rate increases to help fund those plans. All three of those rate increases, adopted in 2011, have gone into effect.

In 2013, the Board extended the same long-term funding approach for Century II to include the natural gas and wastewater systems, although the Wastewater Division had maintained a ten-year funding plan since the inception of the federal Consent Decree in 2005. The Board formally endorsed and adopted by resolution ten-year funding plans for the natural gas and wastewater systems, which included a combination of rate increases and debt issues.

In April 2014, KUB management provided the Board an updated assessment of the overall condition of each utility system, including a recommendation for annual rate increases for each division for the next three fiscal years. In June 2014, the Board approved the three annual rate increases for all KUB Divisions, of which all three rate increases have gone into effect.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending approximately $82.4 million. The project was completed on time and under budget.

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In June 2017, the Board adopted three annual rate increases for all KUB Divisions. The three approved electric rate increases went into effect in October 2017, October 2018, and October 2019 generating \$10.9 million, \$11.2 million, and \$5.7 million in additional annual Electric Division revenue, respectively. The three approved gas rate increases went into effect in October 2017, October 2018, and October 2019, generating \$2.2 million, \$2.3 million, and \$2.3 million in additional annual Gas Division revenue, respectively. The three water rate increases went into effect July 2017, July 2018, and July 2019 generating \$3.1 million, \$3.1 million, and \$3.3 million of additional annual Water Division revenue, respectively. The three approved wastewater rate increases went into effect in July 2017, July 2018, and July 2019 generating \$4.3 million, \$4.2 million, and \$4.5 million in additional annual Wastewater Division revenue, respectively.

In fiscal year 2017, KUB completed the transition to a new disinfection system at the Mark B. Whitaker (MBW) Water Treatment plant.

KUB is currently in the process of implementing a Water Plant Redundancy initiative to ensure that high quality, reliable water service will be provided to customers over the long term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately \$149 million in various redundant facilities at the site of its existing Mark B. Whitaker Water Treatment Plant over a 15-year period that began in fiscal year 2017. Construction of a new generator building with three 2,500 kW diesel generators and associated switchgear is nearing completion at the Mark B. Whitaker Water Treatment Plant. Startup is scheduled for October 2020.

For the fiscal year, KUB stayed on track with its overall Century II capital budget and production goals. The electric system replaced 1,962 poles and 15.1 miles of transmission lines. In the natural gas system, 8.3 miles of gas steel main were replaced. In the water system, 8.1 miles of galvanized water main and 5.7 miles of cast iron water main were replaced. In the wastewater system, 24.2 miles of main were rehabilitated or replaced.

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KNOX COUNTY AND CITY OF KNOXVILLE

LOCATION

Knox County (the “County”) is located in the eastern portion of the State. Founded in 1791 where the French Broad and Holston Rivers converge to form the Tennessee River, The County is located in a broad valley between the Cumberland Mountains to the northwest and the Great Smoky Mountains to the southeast. The County is the hub of the areas of East Tennessee, Southeast Kentucky, Southwest Virginia and Western North Carolina. This area encompasses over two million people. To the north, Union and Grainger Counties border the County. Jefferson and Sevier Counties make up the County's eastern border, while the County's southern border is provided by Blount and Loudon Counties. To the immediate west of the County lies Anderson County. Total land area of the County is approximately 528 square miles.

The U.S. Census Bureau’s 2019 census demographic population data reported that 470,313 citizens reside within the County, which ranks it as the third largest county in Tennessee.

The City of Knoxville (the “City”), the County seat, is the largest city in East Tennessee and within the County. Also, Knoxville is the third largest city in the state and is about 50 miles west of the North Carolina state line. The City has a land area of approximately 104 square miles within its corporate limits and is located on the Tennessee River near the geographic center of East Tennessee, a highly industrialized section of the state.

The City’s 2019 population was reported at 187,603. Farragut, the only other municipality in the County, has an estimated population of 23,778.

GENERAL

In 2004, Knoxville was designated a Metropolitan Statistical Area (the “MSA”) that had a population of 837,571 according to the 2010 US Census. The MSA includes Knox (Knoxville and Farragut), Anderson (Oak Ridge and Clinton), Blount (Maryville and Alcoa), Campbell (LaFollette), Grainger (Rutledge), Loudon (Loudon), Morgan (Wartburg), Roane (Harriman) and Union (Maynardville) Counties.

The City is also part of the Knoxville-Sevierville-Harriman Combined Statistical Area (the “CSA”). According to the 2010 Census, the CSA had a population of 1,056,442. The CSA includes Roane, Anderson, Blount, Knox, Loudon, Union, Grainger, Hamblen, Jefferson, Campbell, Cocke and Sevier Counties. The City of Knoxville is the largest city in the CSA with a population of 178,874 according to the 2010 Census. The 2010 Census reported Knox County (including the City) with a 432,226 population.

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The following table shows past and current population figures for the City and County:

Population Growth

	1970	1980	1990	2000	2010	2019*
Knoxville	174,687	175,045	165,121	173,890	178,874	187,603
Knox County	276,293	319,694	335,749	382,032	432,226	470,313

* 2019 Estimates from U.S. Census Bureau
Source: U.S. Census Bureau.

The only other municipality within the County, the Town of Farragut, has an estimated 2019 population of approximately 23,778 persons.

SOCIOECONOMIC DATA

The following socioeconomic factors indicate the standard of living in the County, as compared to that of the Nation and State:

Social and Economic Characteristics

	National	Tennessee	Knox County	Knoxville	Farragut
Median Value Owner Occupied Housing	$204,900	$158,600	$174,700	$128,800	$350,300
% High School Graduates or Higher Persons 25 Years Old and Older	87.7%	87.0%	91.0%	88.2%	98.2%
% Persons with Income Below Poverty Level	11.8%	15.3%	13.2%	26.2%	3.1%
Median Household Income	$60,293	$50,972	$54,437	$37,703	$106,032

Source: U.S. Census Bureau State & County QuickFacts - 2018.

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Per Capita Personal Income

	2014	2015	2016	2017	2018
National	$47,058	$48,978	$49,870	$51,885	$54,446
Tennessee	$40,801	$42,593	$43,726	$44,950	$46,900
Knox County	**$43,499**	**$45,464**	**$46,360**	**$47,574**	**$49,738**
Index vs. National	92	93	93	92	91
Index vs. State	107	107	106	106	106
Knoxville MSA	**$39,911**	**$41,673**	**$42,630**	**$43,770**	**$45,739**
Index vs. National	85	85	85	84	84
Index vs. State	98	98	97	97	98
Knoxville-Sevierville-Harriman CSA	**$38,046**	**$39,730**	**$40,621**	**$41,663**	**$43,528**
Index vs. National	81	81	81	80	80
Index vs. State	93	93	93	93	93

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

TRANSPORTATION

The area has transportation facilities by rail, air, river and highway. Both the Norfolk Southern and CSX Railroads have terminals and stops in the County, with 270 miles of lines radiating in nine directions. Pellissippi Parkway (I-140) provides a direct link to Oak Ridge from I-40 and I-75 in Knox County. Major highways serving the County include U.S. Highway 44, 129, 321, 411 and 441 as well as State Routes 33, 75 and 95.

McGhee Tyson Airport. The McGhee Tyson Airport is the principal commercial airport in East Tennessee, serving the commercial airline industry, air cargo, military aviation and general aviation. With parallel 9,000 feet runways, McGhee Tyson Airport can accommodate any size aircraft. The Airport is located within the city limits of Alcoa 12 miles south of downtown Knoxville. The airport occupies more than 2,000 acres of land with space for additional air cargo facilities or economic development. This facility is owned and managed by the Metropolitan Knoxville Airport Authority.

The Metropolitan Knoxville Airport Authority (MKAA) was established in 1978 as an independent nonprofit agency to own and operate McGhee Tyson Airport and Downtown Island Airport. The Authority's nine-member Board of Commissioners is appointed by the Mayor of Knoxville and confirmed by City Council. This board determines the policies for the current Airport Authority staff of 150 employees in six departments. The board appoints a President who serves as the chief administrator and executive officer. All of the revenues are generated by user fees and rental income so no taxpayer dollars are used to support airport operations.

According to a recent study by the University of Tennessee's Center for Transportation Research, the airport contributes over $1 billion to the local economy (including Anderson, Blount, Knox, Loudon and Sevier Counties) every year. The report examined the employment, business and tax impacts of the airport, including the Downtown Island Airport.

Two air cargo services provide daily service. In addition, six passenger airlines carry air cargo on most flights. More than 40,359 tons of airfreight annually pass through its cargo facilities. Federal Express and United Parcel Service are the main couriers.

McGhee Tyson Airport has several major airlines serving over 20 non-stop destinations including Atlanta, Chicago, Dallas/Ft. Worth, Denver, New York, Orlando and Washington D.C. With more than 120 arrivals and departures each day and more than 4,000 seats available, McGhee Tyson Airport is one of the most convenient and accessible regional airports in the nation.

The airport is served by two low-fare carriers: Allegiant Air and Frontier Airlines. Allegiant Travel Company is focused on linking travelers in small cities to world-class leisure destinations. Through its subsidiary, Allegiant Air, the Company operates a low-cost, high-efficiency, all-jet passenger airline offering air travel both on a stand-alone basis and bundled with hotel rooms, rental cars and other travel related services. Frontier Airlines started flight in the summer of 2011 from Knoxville to its hub in Denver, Colorado.

McGhee Tyson is served by major and regional carriers including:

Major Airlines:

Allegiant Air
Delta Airlines
Frontier Airlines
United

Regional Carriers:

American Eagle
United Express

Source: Metropolitan Knoxville Airport Authority.

These airlines connect passengers with service to several hub airports across the nation on more than 120 flights daily.

McGhee Tyson Airport

Total Year	**Commercial Passengers**	**Total Air Cargo in Tons**
2010	1,688,882	93,393,658
2011	1,773,671	92,390,849
2012	1,747,145	91,514,071
2013	1,676,374	84,029,942
2014	1,738,133	74,115,672
2015	1,747,472	77,395,631
2016	1,827,989	84,831,987
2017	1,988,626	82,884,887
2018	2,221,137	81,363,507
2019	2,572,775	85,354,236

Source: Metropolitan Knoxville Airport Authority.

McGhee Tyson Airport has undergone many improvements in the past few years. The most recent was in 2017 when the runway and taxiway system was upgraded for $108 million.

Source: Metropolitan Knoxville Airport Authority.

TACAir is McGhee Tyson Airport's general aviation services provider. In addition to providing fuel and services to commercial carriers, they also accommodate the general aviation industry, which includes corporate aviation, charter flights, flight schools and people who fly as a hobby.

The Tennessee Air National Guard's 134th Air Refueling Group operates 10 aircraft at McGhee Tyson Airport. The Guard's KC-135E tankers provide refueling to the country's military aircraft. In addition, the Army Aviation Support Facility, the 110th and 119th Tactical Control Squadrons and the 228th Combat Communications Squadron operate on the base.

Downtown Island Home Airport. Knoxville's Downtown Island Home Airport, located five minutes from downtown, serves as another home base for smaller and privately owned airplanes. The Island Home Airport is a 150-acre general aviation facility with a 3,500-foot runway. It is home to nearly 140 private and corporate aircraft, with 24 hours a day service available.

Waterways. Fifteen miles away is the head of the Tennessee River navigation channel in Knoxville. This river is part of the Interconnected Inland Water System that links Knoxville with 21 states, the Mississippi River and the Great Lakes. Linkages may be made to the entire inland waterway system, allowing shipments to be made by water to Houston, Tampa, Pittsburgh, Minneapolis and Little Rock.

Six active river terminals handle barge shipments throughout the area. The Tennessee-Tombigbee Waterway links East Tennessee with 13 other states and the Gulf of Mexico. This 234-mile canal connects 16,000 miles of waterways throughout Tennessee, Mississippi and Alabama leading to the Port of Mobile and the Gulf of Mexico. This Waterway shortens the shipping between Tennessee and the Gulf of Mexico by 882 miles and enables East Tennessee products to arrive at their Gulf destination from eight to nine days earlier. The development of the Tennessee-Tombigbee Waterway has been a catalyst for the development of industry and agriculture throughout the area. Barge shipping has always been a popular alternative to rail in East Tennessee because of the existence of the Inland Water System.

Knoxville has a Foreign Trade Zone and is an inland Port of Entry with a U.S. Customs Office. In 1988, Knoxville was given its Foreign Trade Zone designation by the U.S. Department of Commerce. This designation allows manufacturers to ship foreign raw materials and components to parts of Knoxville and store them duty free in Knoxville until used. In May 1991, the Foreign Trade Zone was activated.

EDUCATION

Knox County School System. The County operates 86 schools. Included are five magnet schools offering enhanced arts and science curriculum and a Science, Technology, Engineering, and Mathematics (STEM) Academy. In fall 2020, total public school enrollment was 61,526, while the system employed 4,389 teachers. In addition to public education, there are 35 private and parochial schools offering elementary and secondary instruction in Knox County.

Post-secondary education is available at 10 public and private four-year institutions in Knox County and the surrounding area. The University of Tennessee's main campus is in Knoxville. Pellissippi State Technical Community College and Roane State Community College offer two-year programs for technical and associate degrees along with two other vocational/technical institutions. There are four business colleges located in the area.

Source: Tennessee Department of Education and Knox Metropolitan Planning Commission.

University of Tennessee, Knoxville (the "UT" or "UTK"). UTK is one of the oldest land-grant universities in the nation. There are over 230 buildings on a 600-acre campus. Blount College, UTK's forerunner, was established in Knoxville in 1794, two years before Tennessee became a state. With a fall 2020 enrollment of 29,460 students, UTK is the largest campus in the University of Tennessee System (the "System"). According to the U.S. News and World Report, UTK ranked 44th among the nation's best public universities in 2020.

The System is a statewide institution governed by a 26-member Board of Trustees appointed by the governor of Tennessee. Institutions of the System are UTK, UT Health Science Center in Memphis, UT Chattanooga, UT Martin, UT Space Institute in Tullahoma, and UT Institute for Public Service in Knoxville. In addition to the primary campus, the Agricultural Campus houses the UT Institute of Agriculture, a statewide administrative unit that includes the College of Veterinary Medicine, the College of Agricultural Sciences and Natural Resources, the Agricultural Extension Service and the Agricultural Experiment Stations.

UTK is a major research institution, attracting more than $130 million in externally sponsored programs annually. The Division of Aeromedical Services is one of the country's most respected and comprehensive aeromedical programs. UTK is a co-manager with UT-Battelle, LLC of the nearby Oak Ridge National Lab (the "ORNL"). UT-Battelle, LLC was established in 2000 as a private not-for-profit company for the sole purpose of managing and operating the ORNL for the U.S. Department of Energy (the "DOE"). Formed as a 50-50 limited liability partnership between the UTK and Battelle Memorial Institute, UT-Battelle, LLC is the legal entity responsible for delivering the DOE's research mission at ORNL. Faculty and students experience unparalleled research and learning opportunities at the DOE's largest science and energy lab.

UTK conducts externally-funded research totaling more than $300 million annually, including some $17 million annually in research sponsored by ORNL. Areas of joint research with ORNL include the Bioenergy Science Center's work on cellulosic ethanol; the Center for Computational Sciences' partnership with the National Science Foundation; and the Science Alliance, with divisions in biological, chemical, physical, and mathematical/computer science.

A second UT College of Pharmacy building opened on the Knoxville campus in fall 2007 and enrolled an additional 225 students. The three-story building is adjacent to the Health Science Center's Graduate School of Medicine. The UT College of Pharmacy will extend its reach across the state by adding Clinical Education Centers in Chattanooga, Jackson, Kingsport and Nashville.

The System and its statewide campuses bring in over $2 billion in annual income to the State and support more than 50,000 jobs. UTK also generates an estimated $237.6 million in state and local tax revenue per year. Students and visitors attending athletic events at each campus spent approximately $348 million, accounting for $147.3 million in income and 4,879 jobs.

Source: University of Tennessee, UT-Battelle and the News Sentinel.

Johnson University – Tennessee. Johnson University-Tennessee is a private, coeducational institution of higher learning offering associate, bachelor's and master's degrees about 12 miles from Knoxville. Founded in 1893, Johnson University-Tennessee is the second oldest continuing university in America. The purpose of the University is to educate students for specialized Christian ministries with emphasis on the preaching ministry. In the fall of 2019, total enrollment was 723 for the 350-acre campus.
Source: Johnson University.

Oak Ridge Associated Universities (the "ORAU"). ORAU is a consortium of 121 universities and a contractor for the DOE located in Oak Ridge, Tennessee. Founded in 1946, ORAU works with its member institutions that include UTK and its satellite campuses. The purposes are to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members. Through the Oak Ridge Institute for Science and Education (the "ORISE"), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, and faculty enjoy access to a multitude of opportunities for study and research. A pioneer in technology transfer with historic contributions in nuclear medicine and health physics, ORAU today conducts specialized training in nuclear related areas of energy, health and the environment.
Source: Oak Ridge Associated Universities.

Pellissippi State Community College (the "PSCC"). Since its founding in 1974 as State Technical Institute at Knoxville, PSCC has expanded the teaching of technology, the use of technology in instruction, and the transfer of technology to local business and industry in support of regional economic development. Enrollment for fall 2019 was listed as 10,694. PSCC continues to support and develop career/technical associate's degrees and institutional certificates, university parallel associate's degree programs, and continuing education opportunities for the citizens of Knox, Blount, and surrounding counties. PSCC has released a 2018 report showing the school has pumped more than $346 million annually into the Knoxville-area economy over the last 5 years.

Five campuses make up PSCC. The main campus is the Hardin Valley Campus in west Knoxville. The Division Street Campus and the Magnolia Avenue Campus, which opened in 2000, are also in Knoxville. A $22 million campus was completed in late 2010 in Blount County. The Strawberry Plains campus began offering coursework in August 2012.
Source: Pellissippi State Community College and TN Higher Education Commission.

Roane State Community College (the "RSCC"). RSCC, which began operation in 1971 in Harriman, Tennessee, is a two-year higher education institution which serves a fifteen county area. Fall 2020 enrollment was 5,172 students. Designed for students who plan to transfer to senior institutions, RSCC academic transfer curricula include two years of instruction in the humanities, mathematics, natural sciences, and social sciences.

RSCC's 138-acre main campus is centrally located in Roane County where a wide variety of programs are offered. RSCC has nine locations across East Tennessee – the Roane County flagship campus; an Oak Ridge campus; campuses in Campbell, Cumberland, Fentress, Loudon, Morganand Scott Counties; and a center for health science education in west Knoxville.
Source: Roane State Community College.

South College. South College is a private institution that has been a part of Knoxville since 1882. South College has 5 campuses in Tennessee, Georgia and North Carolina. Throughout its history, South College has endeavored to meet the demands of the East Tennessee business community. South College offers a Master's of Health Science in Physician Assistant Studies and baccalaureate degree programs including Pharmaceutical Science (Pre-Pharmacy), Nursing, Health Science (Radiography/Nuclear Medicine), Elementary Education, Business Administration, and Legal Studies. Current associate degree programs include Radiography, Physical Therapist Assistant, Paralegal Studies, Business Administration, Accounting, and Medical Assisting. Nuclear Medicine and Post-Baccalaureate Program (Elementary Education K-6) are the certificate programs offered.

Source: South College.

Tennessee College of Applied Technology-Knoxville (the "TCAT-Knoxville"). TCAT-Knoxville is part of a statewide system of 27 vocational-technical schools. TCAT-Knoxville meets a Tennessee mandate that no resident is more than 50 miles from a vocational-technical shop. TCAT-Knoxville's primary purpose is to meet the occupational and technical training needs of the citizens including employees of existing and prospective businesses and industries in the region. TCAT-Knoxville serves the central east region of the state including Knox and Blount Counties. TCAT-Knoxville began operations in 1966, and the main campus is located in Knox County. Fall 2018 enrollment was 1,559 students.

Source: Tennessee College of Applied Technology-Knoxville.

Tusculum College Graduate and Professional Studies Program (the "Tusculum"). Tusculum maintains offices in Knoxville for its Graduate and Professional Studies Program, in addition to other class sites across East Tennessee. Located in Greeneville, Tusculum is a private college affiliated with the Presbyterian Church. Tusculum was founded in 1794, making it the oldest college in Tennessee and the twenty-eighth oldest college in the nation. Fall 2018 enrollment was 885. The wooded 140-acre Tusculum campus has eight buildings and the Tusculum Arch that are listed on the National Register of Historic Places. Tusculum is one of three colleges in the country to operate on a focused calendar, in which courses are scheduled one at a time.

Source: Tusculum College.

HEALTHCARE

Knoxville serves as a regional medical center for 27 counties in East Tennessee and Kentucky. The available technology, the specialized institutions, and a reputation for quality health care bring people into Knoxville from a 200-mile radius. There are 1,973 beds in six acute care hospitals in the County, including three healthcare systems (Covenant Health Care, Tennova Health System and University of Tennessee).

Source: Knox Metropolitan Planning Commission and the News Sentinel.

Covenant Health

Covenant Health is a comprehensive health system established in 1996 by the consolidation of Fort Sanders Health System, Knoxville, Tennessee, and MMC HealthCare System, parent company of Methodist Medical Center of Oak Ridge, Tennessee. Covenant Health, headquartered in Knoxville, has ten acute-care hospitals plus inpatient and outpatient cancer care, behavioral and rehabilitation centers, home health, outpatient surgery and diagnostic centers, physician offices and more. More than 10,000 people are employed by Covenant Health and its member organizations, with nearly 1,500 affiliated physicians.

Covenant Health includes 30 member organizations, nine of which are acute care hospitals in East Tennessee: Fort Sanders Regional Medical Center and Parkwest Medical Center in Knoxville, Methodist Medical Center in Oak Ridge, Fort Loudon Medical Center in Lenoir City, LeConte Medical Center in Sevierville, Roane Medical Center in Harriman, Morristown-Hamblen Healthcare System in Morristown, Cumberland Medical Center in Crossville and Claiborne Medical Center in Tazewell. It also includes Peninsula Hospital, a psychiatric hospital in East Tennessee's Blount County. Covenant Health also operates numerous other healthcare facilities for outpatient clinics, cancer centers, breast centers, behavioral health, rehabilitation, home health and weight management facilities.

Over the last few years, the largest hospital operator in the area has built new or expanded facilities in Sevier, Loudon, Anderson, Cumberland and Knox counties. It recently finished construction for a $150 million expansion project at Fort Sanders Regional Medical Center in Knoxville as well as for a new $50 million hospital in Roane County.

Fort Sanders Regional Medical Center (the "Fort Sanders"). Part of Covenant Health, Fort Sanders is a 541-bed full-service acute care hospital with more than 350 doctors located in the Fort Sanders community of downtown Knoxville. The hospital was built in 1919 and has about 1,833 employees. In 2013, Fort Sanders received national recognition as a comprehensive stroke center; they are the second Tennessee hospital to receive this award. This certification from the Joint Commission on Accreditation of Healthcare Organizations means that the medical center is recognized as having the infrastructure, staff and training to receive and treat complex cases. Fort Sanders is a regional referral center for neurosurgery, neurological disorders, orthopedics, oncology, cardiology, obstetrics and rehabilitation medicine. Fort Sanders offers a variety of specialized services such as a 24-hour Chest Pain Center, one-day surgery, electrodiagnostics, a Sleep Disorders Center, a Diabetes Center, prenatal education, and sports medicine. A $150 million expansion was completed for the facility in 2010.

Parkwest Medical Center (the "Parkwest"). Part of Covenant Health, Parkwest is the region's only Top 100 Heart Hospital (which the hospital has been named eight times). Parkwest has 462 beds with over 600 doctors on staff. The total employment is about 1,300. The campus includes one of the area's first all-digital catheterization laboratories and a comprehensive breast center with a multidisciplinary approach to women's health. Peninsula Behavioral Health is a division of Parkwest Medical. See "RECENT DEVELOPMENTS" for more information on a three year renovation that began in 2018.

Tennova Healthcare

Tennova Healthcare is a for-profit healthcare system and has several acute care hospitals in Knoxville and the surrounding area. Florida-based Health Management Associates Inc. bought Mercy Health Partners in 2011 and changed the name to Tennova Healthcare. Tennova Healthcare and Health Management Associates were acquired by Community Health Systems, Inc. (the "CHS"), based in Brentwood, TN. CHS is one of the nation's leading operators of general acute care hospitals based in Brentwood, TN. The organization's affiliates own, operate or lease 106 hospitals in 18 states with approximately 17,000 licensed beds. There are nine CHS hospitals in Tennessee.

Tennova Healthcare facilities include the following: Turkey Creek Medical Center (Knox County), Jefferson Memorial Hospital (Jefferson County), Newport Medical Center (Cocke County), and LaFollette Medical Center (Campbell County). Dyersburg Regional Medical Center (Dyer

County), Regional Hospital of Jackson (Madison County) and Volunteer Community Hospital (Weakley County) were sold by Tennova to West Tennessee Healthcare in 2018.

North Knoxville Medical Center. Part of Tennova Healthcare, North Knoxville Medical Center opened in the fall of 2007 in north Knox County. The full-service facility has 108 beds. The North Knoxville Medical Center expanded its cancer care services and underwent renovations to add cardiac catheterization laboratories and operating rooms so it can begin taking cardiac care and orthopedic, general and vascular surgeries originally performed at Physicians Regional. This was completed in 2020.

Turkey Creek Medical Center (the "Turkey Creek"). Part of Tennova Healthcare, Turkey Creek Medical Center has 101 beds in west Knoxville. Turkey Creek has a 24-hour, full-service, all-digital campus, with a completely staffed emergency department that cares for men, women and children of all ages. Every patient room is a private room. An intensive care unit, state-of-the-art surgical suites, imaging services, rehabilitation services and specialized staff and physicians bring groundbreaking, comprehensive treatment. Turkey Creek converted its existing obstetrical beds to general medical/surgical beds and added operating rooms and intensive care unit beds to accommodate more general and cardiovascular surgeries originally performed at Physicians Regional. This was completed in 2020.

East Tennessee Children's Hospital (the "Children's")

Located in Knoxville, Children's is a private, independent, not-for-profit pediatric medical center. There are 152 beds with doctors on staff, representing 32 pediatric subspecialties. A total of 1,200 people are employed at the hospital. Children's originally opened in 1937 and is the only Comprehensive Regional Pediatric Center in East Tennessee certified by the state. Pediatric services offered include ICUs, emergency services, outpatient clinics for oncology, hematology, diabetes, cystic fibrosis and a rehabilitation center.

University Health System, Inc. (the "UHS")

UHS is a regional health system that is comprised of the UT Medical Center, the UT Heart Hospital, UT Health Network and various partnerships and joint ventures with physicians and healthcare companies. UHS is affiliated with the University of Tennessee Graduate School of Medicine and numerous regional hospitals and physician organizations. UHS supports and collaborates with the UT Graduate School of Medicine and other academic endeavors as part of its commitment to excellence in education and research.

University of Tennessee Medical Center (the "UT Medical Center"). The UT Medical Center in Knoxville is an acute care teaching hospital with 609 beds and more than 400 doctors. The UT Medical Center employs 5,458 people. Designated as the region's Level I adult and pediatric Trauma Center by the State of Tennessee, UT Medical Center provides the highest level of programs and emergency services. Critically ill patients are transported to UT Medical Center via one of LIFESTAR'S two helicopters.

Special care units such as cardiac care, open heart, medical intensive care, neuro-respiratory, and trauma surgical intensive care are available for patients who require maximum medical attention. A Level IV Intensive Care Nursery, a Pediatric Intensive Care Unit, a newborn nursery and many other programs comprising Children's Health Services enable UT Medical Center to provide the region's most comprehensive medical services for infants and children. UT Medical

Center also serves as the Regional Perinatal Center. The UT Heart Hospital was opened in 2010. The Cancer Institute finished construction in 2012.

Source: Covenant Health, Tennova Healthcare, East TN Children's Hospital, University Health System and the News Sentinel.

SCIENCE AND ENERGY

History

The City of Oak Ridge has a unique history. This area was selected by the United States government in 1942 as the location for its production plants for uranium 235, a component of the first atomic bomb. The original town site was built during World War II to house and furnish necessary facilities for the employees of the uranium plants. This project (known as the "Manhattan Project") was transferred to the Atomic Energy Commission in 1947, and the community was operated by contractors under the control of the Atomic Energy Commission. In 1955, the Atomic Energy Commission sold the homes and land to the residents. In 1959, the residents voted in favor of incorporation under a modified city manager-council form of government.

Since the 1940's, the nuclear industry has been the largest employer for the City of Oak Ridge and Roane and Anderson Counties when a weapons fabrication division was built by the U.S. Corps of Engineers. As part of the secret World War II "Manhattan Project", the early task of the plant was the separation of fissionable uranium-235 from the more stable uranium-238 by an electromagnetic process to be utilized in the world's first atomic bomb. Some 80,000 workers were hired for emergency construction of the laboratories and offices on the 56,000-acre site. At the peak of production during the war, 23,000 employees kept the separation units working at a cost of $500 million for the entire project.

Today, the DOE occupies approximately 33,000 acres and almost 1,200 buildings within the Oak Ridge city limits, and employs over 13,000 in engineering, skilled and semi-skilled crafts, technical and administrative support. Since October 1999, DOE has contracted with the University of Tennessee and Battelle to manage the ORNL. UT-Battelle began management of the lab on June 1, 2000. Consolidated Nuclear Security, a Bechtel-led contractor team, took over management of the Y-12 nuclear weapons plant effective July 1, 2014 (BWXT, Inc. was the appointed contractor for the Y-12 Plant). DOE awarded its environmental cleanup contract to Bechtel Jacobs from 1997 to 2011. URS-CH2M Oak Ridge took over the cleanup contract in 2011.

Research

The extensive energy research and development conducted by private and public agencies make Oak Ridge one of the world's great research centers. The presence of the University of Tennessee, the ORNL, Oak Ridge Associated Universities and the Tennessee Valley Authority (the "TVA") makes Oak Ridge a prime location for research facilities, as well as technology-based and conventional manufacturing industries. Science is a worldwide business, and the facilities at DOE in Oak Ridge have attracted a large number of technical people and their families. ORNL campus also houses visiting scientists and researchers that come to work at the world-class facility in an $8.9 million Guest House (built in 2010) with 47 units.

BioEnergy Sciences Center (the "BESC"). BESC is one of only three sites in the country operated by one of the DOE's new bioenergy research centers. It opened in ORNL in 2007. BESC works to accelerate research in the development of cellulosic ethanol and other biofuels, and make biofuel production cost competitive on a national scale. The new site received $135 million in federal funding. The University of Tennessee serves as one of the academic partners, providing specialized instrumentation, plant breeding technologies and new microbe discovery. Energy crops like switchgrass, which can be grown on marginal crop land, can produce affordable, domestic renewable fuel without raising food or feed costs. The BESC is dedicated to studying how to economically break down the cellulose in those sources to convert it into usable sugars for ethanol production.

Oak Ridge National Lab. ORNL is a multi-program science and technology laboratory managed for the DOE by UT-Battelle, LLC. Scientists and engineers at ORNL conduct basic and applied research and development to create scientific knowledge and technological solutions that strengthen the nation's leadership in key areas of science; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security. ORNL also performs other work for DOE, including isotope production, information management, and technical program management, and provides research and technical assistance to other organizations. The laboratory is a program of DOE's Oak Ridge Field Office.

ORNL also boasts having the Spallation Neutron Source accelerator project (described below) and several supercomputers for scientific purposes. These unique projects bring about 3,000 scientists to visit each year for varying periods of time, and numerous small industries to be spun off from the experiments and findings. Each job created is expected to have an impact on housing, retail banking, automobile and transportation, hotels, restaurants, hospitals, and business services.

The world's most powerful neutron science project is the *Spallation Neutron Source* (the "SNS") at ORNL. The giant research complex, spread across 75 acres on Chestnut Ridge a couple of miles from the main ORNL campus, is the world's top source of neutrons for experiments. The SNS is an accelerator-based neutron source built in Roane County by DOE. The SNS provides the most intense pulsed neutron beams in the world for scientific research and industrial development. At a total cost of $1.4 billion, construction began in 1999 and was completed in 2006. In 2009, SNS reached full power when it set the world record in producing beam power three times more powerful than the previous world record. More neutrons are produced with a higher beam power.

Neutron-scattering research has a lot to do with everyday lives. For example, things like jets; credit cards; pocket calculators; compact discs, computer disks, and magnetic recording tapes; shatter-proof windshields; adjustable seats; and satellite weather information for forecasts have all been improved by neutron-scattering research. Neutron research also helps researchers improve materials used in high-temperature superconductors, powerful lightweight magnets, aluminum bridge decks, and stronger, lighter plastic products. The medical field will also be impacted with new drugs and medicines expected from experiments at the SNS.

ORNL is also completing a series of upgrades at the *High Flux Isotope Reactor*. This ORNL facility is sometimes referred to as the lab's "other" billion-dollar machine. It is the world's most powerful research reactor, and it is used to perform experiments similar to - but different from - those to be done at the Spallation Neutron Source.

The DOE selected ORNL in 2020 to lead a collaboration, the *Quantum Science Center*, charged with developing quantum technologies that will usher in a new era of innovation. The center supports the National Quantum Initiative Act of 2018 by enhancing America's national security and retaining its global leadership in scientific research and development - goals that require broad expertise and capabilities.

The Quantum Science Center will receive $115 million over five years from DOE's Office of Science to realize the potential of topological quantum materials for manipulating, transferring and storing quantum information. Quantum materials exhibit exotic properties under specific conditions, and the center will transition this knowledge to the private sector for use in practical applications such as quantum computers and sensors.

The United States aims to invest $765 million over the next five years in a dozen scientific centers dedicated to the study of artificial intelligence (AI) and quantum information science (QIS), such as quantum computing. Private tech companies such as IBM, Google, and Intel will also contribute to the twin pushes, which call for a total of more than $1 billion in research investment.

ORNL's *Supercomputers* are housed in a 170,000-square-foot facility that includes 449 staff and 40,000 square feet of space for computer systems and data storage. The facility will house or has housed five supercomputers - the "Summit", currently ranked the fastest supercomputer in the world as of June 2018, the new exascale computer "Frontier" that has yet to be completed, the "Titan", the "Kraken", and the now dismantled "Jaguar". "Summit", built by IBM, is the third computer at Oak Ridge to be ranked number one. The "Titan" was the world's fastest at its November 2012 debut, and the "Jaguar" while in operation held the title twice in November 2009 and June 2010. The machines work on breakthrough discoveries in biology, fusion energy, climate prediction, nanoscience and many other fields that will fundamentally change both science and its impact across society.

The "Summit" supercomputer cost an estimated $200 million to build and is used for a wide range of scientific applications including combustion science, climate change, energy storage and nuclear power. "Summit" also serves as an artificial intelligence and deep learning computer, capable of analyzing massive amounts of data and automating critical steps of the discovery process.

The "Summit" was operational in 2018 and is eight times faster than the "Titan". "Summit" is able to make over 140 quadrillion calculations per second, measured as 140 petaflops. Due to all the energy and heat produced by the calculations, "Summit" produces more heat per square centimeter than tiles on the bottom of a spaceship re-entering Earth's atmosphere. Therefore, "Summit" is cooled by water pumped through plates that sit on top of the computer's chips. In all, "Summit" uses up to 15 megawatts, equivalent to the power 9,000 to 18,000 homes would consume, depending on the time of day. At peak, "Titan" uses about 9 megawatts.

The uncompleted "Frontier" exascale computer ORNL hopes to have built by 2021 will be 50 times faster than the "Summit". This exascale computer will replace the "Titan".

The National Oceanic and Atmospheric Administration (the "NOAA") sponsors the "Titan", funded with Recovery Act money. NOAA awarded Cray and ORNL a $47 million contract to provide the supercomputer "Titan" to work on climate research. The Cray supercomputer, the "Titan", was online in late 2012 after several years of development to replace the "Jaguar" supercomputer at ORNL. When the "Titan" was listed as the world's fastest computer in late 2012 it marked the fourth time a computer from ORNL has achieved that distinction since 1953. The

"Titan's" purpose is to support research in energy, climate change, efficient engines and materials science. "Titan" is capable of a peak performance of about 27-petaflops. That speed is about 10 times the capability of the first "Jaguar", which at one time was the world's fastest computer. The total cost of the "Titan" was estimated to be about $100 million, but about $20 million was saved by reusing much of the "Jaguar" structure.

The DOE and the National Science Foundation (the "NSF") sponsor the supercomputer "Kraken" which came online in 2009. The NSF awarded the University of Tennessee (the "UT"), ORNL and other institutions a $65 million grant to build "Kraken" to work on a range of scientific challenges, such as climate change and new medicines. UT's "Kraken" is housed with the ORNL's "Titan".

Through interagency agreements, DOE's Oak Ridge facilities have launched a highly successful "work for others" program. Local firms contract with numerous federal agencies to provide services and products. The value of these contracts have grown from approximately $50 million in 1983 to $270 million in recent years.

Tennessee Valley Authority (the "TVA"). TVA provides support, technology, expertise, and financial resources to existing businesses and industries in its service area, including Knox County, to help them grow and be more efficient and profitable. These resources include technical assistance, low-interest loans, and other tools needed by businesses for successful operation.

University of Tennessee. The University of Tennessee's flagship campus in Knoxville is home to a wide array of vigorous programs doing research on issues vital to the community, the state, the nation, and the world. The university has collaborative relationships with public and private agencies including ORNL, Battelle Memorial Institute (forming UT-Battelle), St. Jude Children's Research Hospital, the Memphis Bioworks Foundation, and the Boston-Baskin Cancer group (forming UT Cancer Institute).

National Institute for Mathematical and Biological Synthesis (NIMBioS) is a first-of-its-kind institute dedicated to combining mathematics and biology to solve problems in both scientific fields. The center was funded by a 2008 $16 million award from the National Science Foundation and is located at the University of Tennessee. A unique aspect of NIMBioS will be its partnership with the Great Smoky Mountains National Park. The park and its Twin Creeks Science Center play a key role in the institute's work, with the park serving as a testing ground for many of the ideas that come from NIMBioS. Partners in NIMBioS include the US Department of Agriculture and the US Department of Homeland Security, IBM and ESRI, a developer of software and technology related to geographic information systems. It draws over 600 researchers each year to Knoxville.

Source: City of Oak Ridge, ORNL, Y-12 National Security Complex and the Knoxville News Sentinel.

Nuclear

Integrated Facilities Disposition Program. The DOE has approved a massive $18 billion Oak Ridge cleanup campaign. The cleanup program would demolish more than 400 contaminated buildings at ORNL and the Y-12 nuclear weapons plant. The program would also focus on mitigating polluted ground water at the sites and other actions to reduce environmental damage. The work began in 2011 and could take up to 45 years to complete. In 2015, $424 million was set aside for the environmental cleanup activities in Oak Ridge.

The 2009 stimulus act passed by Congress gave the DOE Oak Ridge's office $1.9 billion for environmental cleanup projects. The stimulus money sent directly for projects in Oak Ridge, $1.2 billion, saved or created about 3,863 new jobs through sub-contracting construction-type jobs as well as technical and specialty positions associated with handling radioactive materials and evaluating environmental risks. The clean-up money was divided among four sites: $239 million to ORNL, $292 million to Y-12, $144 million to East Tennessee Technology Park and $80 million to the Transuranic Waste Processing Center. At Y-12 alone, seven cleanup projects created 2,000 jobs, demolished about 150,000 square feet of old buildings and got rid of about 74,000 cubic meters of waste.

A former gaseous diffusion building was torn down by the DOE as part of its program to convert the former K-25 site for use by private industry. The K-25 Building was part of a series of mammoth buildings to enrich uranium for weapons and fuel for nuclear power plants. The building went into operation in 1951 and was shut down in 1987. The building in size equated to 6 1/2 football fields under one roof. Demolition was completed at the end of 2007. The gigantic K-25 building, a mile-long U-shaped structure that processed the uranium in WWII, was demolished in 2010.

Y-12 National Security Complex. The Y-12 National Security Complex is another large federal plant in Oak Ridge. The ongoing functions of the Y-12 plant are to support the DOE's weapons design labs, recover U-235 from spent nuclear weapons and provide support to other government agencies.

Y-12 has been undergoing a major modernization program. Y-12 is a key facility in the U.S. Nuclear Weapons Complex and is responsible for ensuring the safety, reliability, and security of the nuclear weapons stockpile and serves as the nation's primary repository of highly enriched uranium. Y-12 houses the country's stockpile of bomb-grade uranium, builds uranium bomb parts and dismantles nuclear weapon systems as needed to support a much smaller nuclear arsenal. The National Nuclear Security Administration (the "NNSA") is planning to transform the nuclear weapons complex to be smaller, more efficient and more cost effective. The goal is by 2020 to have only two facilities where there used to be 700 buildings.

Contractors have already demolished dozens of World War II era buildings at Y-12, about a million square feet since 2001, to reduce the surveillance and maintenance costs, and to support the new programs. Some new office buildings already have been built, including the Jack Case Center that holds about a third of the workforce, or around 1,500 employees. This $58 million, 420,000-square-foot office building was completed in the summer of 2007. A new 137,000-square-foot visitor's center and auditorium, for about $18 million, was also completed in 2007.

Outfall 200, a water treatment plant designed to capture Y-12 mercury runoff, began site preparation in 2017 and cost $1.4 million. A four-year construction period for the plant began in 2019 with a projected cost of $92 million. Once operational, the treatment facility will have a treatment capacity of 3,000 gallons of water per minute and have a 2-million-gallon storage capacity.

The $549 million *Highly Enriched Uranium Materials Facility* at Y-12, a storage complex for weapons-grade uranium, was completed in late 2008. This storage facility replaced multiple aging facilities and allows for storage of its uranium stocks in one central location that represents maximized physical security with minimal vulnerabilities and operating costs. It is designed to protect the large cache of U-235 against any type of terrorist assault. The facility is currently over 85% storage capacity of bomb-grade uranium.

The *Uranium Processing Facility* (the "UPF") Project, cornerstone of Y-12's new modernization strategy, will replace current enriched uranium and other processing operations. It will replace Y-12's main production center and cost $6.5 billion. In 2018, the last approval from the DOE was given to build the final three buildings that will make up the UPF. The $6.5 billion project will be the largest construction project the state has ever seen, and the project is expected to create more than 2,000 jobs during peak construction. The design phase began in 2006, construction began in 2009, and the facility should be in operation by 2025. Construction of the UPF will accelerate consolidation of aging facilities, bringing production operations currently housed in multiple buildings together, reducing the size of the plant's highest security area by 90 percent, improving the overall security posture, making the plant more secure and saving millions of dollars in annual operating costs. See "RECENT DEVELOPMENTS" for more information.

Source: City of Oak Ridge, ORNL, Y-12 National Security Complex and the Knoxville News Sentinel.

Solar and Renewable Energy

Tennessee was an early leader among southeastern states in developing its renewable energy resources. The southeastern region's first major wind farm, located on Buffalo Mountain near Oliver Springs, Tennessee, began operating as a 2-megawatt facility in 2000. Its generating capacity has since been expanded to 29 megawatts. Two utility-scale solar photovoltaic facilities in McNairy County, Tennessee, are the largest in the state and have a combined capacity of 40 megawatts.

In 2015, Knox County installed 5 megawatts of solar photovoltaic systems on the rooftops of several county buildings to provide more than $29 million in energy savings to the county over the next three decades.

Tennessee Valley Authority (the "TVA"). As of 2018, TVA has contracted or installed around 400 megawatts of solar generating capacity, has more than 1,200 megawatts of wind power, and over 50 megawatts from burning organic garbage. About 13 percent of TVA's power comes from renewable sources, with 3 percent of that comes from wind and solar (it is projected to increase to 5 percent by 2025).

TVA operates eight solar power facilities in Tennessee, including a 97-kilowatt facility at Finley Stadium in Chattanooga, Tennessee. Tennessee is one of the top three hydroelectric power producers east of the Rocky Mountains due to the many TVA hydroelectric power plants located on the Tennessee and Cumberland River systems. Hydroelectric power, although variable, has been contributing about one-eighth of the state's net generation in recent years. Biomass, primarily from wood and wood waste, also contributes a small amount to the state's net generation. TVA also uses methane gas from the Memphis wastewater treatment plant to boost generating capacity at one coal-fired power plant, increasing the plant's capacity by 8 megawatts.

Tennessee Solar Institute. Located in Knoxville, the Tennessee Solar Institute is part of the Volunteer State Solar Initiative with UTK and ORNL. The objective of the initiative will be to find ways of reducing the cost of producing solar energy and ways to store energy until needed. Among other purposes, it brings together scientists, engineers and technical experts with business leaders, policymakers and industry workers to help speed the deployment of solar photovoltaic technology.

It is designed to be a home for regional and state initiatives that foster the creation of new businesses.

Solar Manufacturing Plants. East Tennessee has several manufacturing plants. In East Knoxville, Efficient Energy built a 1.2 megawatt solar panel site with Natural Energy Group to be used for local research and education. In Roane County near the ORNL, a smaller array of 200-kilowatts was online in 2012 with plans to expand into the Brightfeld One Project. In Bradley County, the $2.5 billion Wacker Polysilicon plant created 650 jobs to produce silicon used for the solar energy industry. The plant was operational in early 2016. Also in Bradley County, a new $30 million, 9.5-megawatts solar park is providing power to the Volkswagen Plant in Chattanooga.

In West Tennessee, Sharp Electronics in Shelby County (Memphis) has a large array consisting of nearly 4,160 solar panels for $4.3 million that cover the plant's roof to generate about 200 kilowatts of power. Sharp Electronics also has produced over 2 million solar panels since 2003 and has over 480 employees. The West Tennessee Solar Farm in Haywood County has two solar arrays that came online in 2012: a $31 million, five megawatt generating facility uses more than 21,000 panels, and another solar array that generates 1 megawatts of energy.

Efficient Energy of Tennessee. Efficient Energy, in partnership with Natural Energy Group, built a solar panel site in East Knoxville in 2010. The site has more than one megawatt worth of solar panels on a five-acre lot. The 4,608 solar panels can produce nearly 1.2 megawatts of electricity, enough to power about 125 homes. The site is also a resource for local research and educational organizations, such as the Oak Ridge National Lab, Cleveland State Community College and Pellissippi State Community College.

Source: U.S. Department of Energy (Energy Information Administration), Memphis Commercial Appeal, the Knoxville News Sentinel and the University of Tennessee.

TRADE AREA

Because of its central location in the eastern United States, the County metropolitan area serves thousands of industrial and commercial customers in a concentrated eight-state area. It is within 500 miles of approximately one-third of the population of the United States, and nearly half of the nation's population is within a day's drive of Knoxville. For many years the County has been known as one of the South's leading wholesale markets. Based on 2020 estimates, there were approximately 1,085 wholesale establishments, 1,697 retail establishments, and 8,443 service industries located in the County.

The area is the trade center for a 42-county region, located in East Tennessee, Kentucky, Virginia and North Carolina, which serves over two million people. It also is the cultural, tourist, and professional center for this region. The MSA includes more than 876 manufacturing firms, which produce a large variety of items including medical devices, electronic components, chemicals, manufactured housing, apparel, and automobile parts.

Source: 2020 Knox County, Tennessee Comprehensive Annual Financial Report.

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BUSINESS CLIMATE AND INDUSTRIAL INVESTMENT

The County has a history of being a regional leader in economic activity. The County offers premier location opportunities for high-technology and precision manufacturing firms. The University of Tennessee, Tennessee Valley Authority and the Oak Ridge National Laboratory help to provide a stable, secure employment base. The Knoxville area is home to many medium-sized manufacturing and distribution operations as well as customer service centers. The County is also well served by 250 trucking companies, three railroads, five airlines, and three local river terminals that provide direct links to the Great Lakes and to the Gulf of Mexico.

Commerce and industry vary from the media success of Discovery, Inc. formerly Scripps Television Networks (HGTV, DIY, Food, Cooking, GAC, and Travel), to Sysco Corporation's (largest food service marketer and distributor in North America) regional warehouse and distribution center. There are also Homes, Brunswick Corporation, Keurig Green Mountain, Bush Brothers, Pilot/Flying J Travel Centers, and Denso Manufacturing located with in Knoxville MSA.

The area is also a location for corporate headquarters. High profile companies headquartered here in the MSA include the Tennessee Valley Authority, Jewelry Television, AC Entertainment, DeRoyal Industries, PetSafe/Radio Systems Corporation, and Regal Entertainment. Knox County has 8 business parks and a Technology Corridor to meet a wide range of corporate facility needs.

Four regional shopping malls and over 200 shopping centers and factory outlets are located within the County. The 2019 retail sales in the MSA grossed over $16.1 billion, with approximately 66% of that total generated in the County.

The Knoxville area continually receives recognition for high quality of life, combining an attractive natural setting with a moderate four-season climate. In 2020, the Knoxville MSA ranked 33 amongst the top MSAs nationally with the Regional Economic Information System (REIS). The Knoxville MSA ranks comparably to the Nashville MSA which ranked number 1 in the country.

In addition, the Knoxville area ranks among the nation's top markets for low cost of living. The Knoxville MSA ranks as one of the top southeastern urban areas with an index of 83.1 compared to the average of all participating cities of 100.

Source: 2020 Knox County, Tennessee Comprehensive Annual Financial Report.

MANUFACTURING AND COMMERCE

The County has seven business parks and a Technology Corridor to meet a wide range of corporate facility needs. The Forks of The River Industrial Park has 1,615 acres. EastBridge Business Park has 800 acres. WestBridge Business Park has 250 acres. Pellissippi Corporate Center has 150 acres. Hardin Business Park is a light industrial park with 95 acres. CenterPoint Business Park is a commercial park with 60 acres. The 44-acre I-275 Business Park was sold to Sysco Corp.

A proposed 345-acre business park off Midway Road was approved in 2016 by the Metropolitan Planning Commission and the Knox County Commission. It is expected to be several years before any development occurs, but when complete, it could add about 2,200 new jobs to the area.

The County had about 13,157 businesses and the MSA had 20,446 businesses operating in 2019. The County had 500 manufacturing facilities in 2019 and the MSA had 876 for the same period.

Knoxville-Oak Ridge Innovation Valley Inc. is an investor-directed program for five counties designed to recruit, retain and expand business growth throughout the Innovation Valley region. The organization is focused on technology-led economic development, as well as education and workforce development. These two areas of focus represent key differentiators in this plan of work.

The Pavilion at Turkey Creek (the "Turkey Creek"). Turkey Creek is the largest single commercial development ever built in the metropolitan area of Knoxville. Designed for mixed use and beautifully landscaped, Turkey Creek boasts more than 300 acres of space zoned for retail shopping outlets, medical facilities, theaters, office space, banks, restaurants and hotels. The developers of Turkey Creek also created a 58-acre nature preserve and designed greenways throughout the site. Being only three miles from the junction of Interstate 75 and 40 to the west and 14 miles from downtown Knoxville makes the site a quick drive from the urban center, suburban Knoxville, and rural counties.

Select Tennessee Certified Sites Program. The County has two industrial parks that have been certified as a Select Tennessee Certified Sites Program: Pellissippi Corporate Center Lots 11 and 12 (33 acres) and the Eastbridge Business Park Lots 4,5 & 6 (121 acres).

The Select Tennessee Certified Sites Program has helped communities prepare industrial sites for private investment and job creation since 2012. The certification process ensures that each certified site meets high quality standards and are primed for development. Certified sites must have documented environmental conditions and geotechnical analysis, existing onsite utilities or a formal plan to extend utilities to the site, and truck-quality road access. The program's goal is to give companies detailed and reliable information during the site selection process and markets the sites to a targeted group of site selection consultants and business leaders in Tennessee's key industry clusters. As of January 2021, sixty-five sites in Tennessee have been certified and 23 companies have invested over $1.8 billion in capital investment to construct facilities on certified sites, accounting for more than 7,200 new job commitments.

Source: Tennessee Department of Economic and Community Development.

The *Technology 2020* project was initiated in 1993 to capitalize on the unique resources of the East Tennessee region: the presence of the ORNL, the University of Tennessee-Knoxville, the headquarters of the Tennessee Valley Authority, and a significant number of both large and small technology companies in the region. A $4.5 million investment has been made by DOE, South Central Bell, the Tennessee Public Service Commission and Lockheed-Martin to set up a regional telecommunications laboratory. This economic development resource center is located in Oak Ridge's Commerce Park. An 18,000 square foot facility has been constructed on the 5.2-acre site. The facility will be used for testing and demonstrating new communications technologies and applications.

The *Tennessee Valley Authority* (the "TVA") provides support, technology, expertise, and financial resources to existing businesses and industries in the Valley to help them grow and be more efficient and profitable. These resources include technical assistance, low-interest loans, and other tools needed by businesses for successful operation.

The *University of Tennessee's* flagship campus in Knoxville is home to a wide array of vigorous programs doing research on issues vital to the community, the state, the nation, and the world. The university has collaborative relationships with public and private agencies including ORNL, Battelle Memorial Institute (forming UT-Battelle), St. Jude Children's Research Hospital, the Memphis Bioworks Foundation, and the Boston-Baskin Cancer group (forming UT Cancer Institute).

Source: Knox News Sentinel and Knox County Metro Planning Commission 2018.

Leisure Boat Manufacturing. Due to the Tennessee Valley Authority (the "TVA") system of lakes and rivers, East Tennessee is an excellent place to test boats without worrying about hurricanes while being near the Interstate crossroads. Channelization of the Tennessee River to a 9-foot minimum navigable depth from its junction with the Ohio River at Paducah, Kentucky to the City gives the surrounding communities the benefits of year-round, low-cost water transportation and a port on the nation's 10,000-mile-inland waterway system. It takes a week to deliver the yachts too large for the interstate from the reservoir down the series of locks on the Tennessee River, along the Tennessee-Tombigbee Waterway, then on to the Gulf of Mexico and beyond. This system, formed largely by the Mississippi River and its tributaries, effectively links the River with the Great Lakes to the north and the Gulf of Mexico to the south.

Boat manufacturers in the area listed by county are below:

Knox County:	Bullet Boats, and Sailabration Houseboats
Monroe County:	Sea Ray Boats, Mastercraft Boats, Yamaha-TWI and Bryant Boats
Blount County:	Skier's Choice, Allison and Stroker Boats
Loudon County:	Malibu Boats
Cumberland County:	Leisure Kraft Pontoons
Campbell County:	Norris Craft Boat Company

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LARGEST EMPLOYERS

The major areas of employment in Knox County are the services, retail trade and government. Comparatively, both the state and the nation show a heavier concentration in manufacturing than does Knox County.

The following is a list of the major sources of employment in the Knoxville MSA:

Ten Largest Employers in the County

Name	County	Industry	Employment
Covenant Health Alliance[1]	Knox	Health Care	9,792
The University of TN, Knoxville	Knox	Education	9,384
Knox County Public Schools	Knox	Education	7,949
University Health System	Knox	Health Care	5,458
State of Tennessee	Knox	Regional Government	3,286
K-VA-T Food Stores (Food City)	Knox	Retail	3,104
Tennova Health System[2]	Knox	Health Care	2,900
City of Knoxville	Knox	Government	2,644
Knox County	Knox	Government	2,500
Tennessee Valley Authority[3]	Knox	Power	1,326

[1] Includes Ft. Sanders Reg Med Center, Parkwest, Methodist Med Center & all other Covenant Hospitals in the area.
[2] Includes all Tennova Health System hospitals in the area.
[3] Includes Corporate headquarters in Knoxville, Bull Run Steam Plant, Norris and Corryton with 1,271 TVA employees and 1,746 contract employees.

Source: Knoxville Chamber of Commerce - 2020.

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Major Employers in the Knoxville MSA

Name	County	Industry	Employment
Y-12 National Security Complex[1]	Roane	National Security	10,986
Covenant Health Alliance[2]	Knox	Health Care	9,792
The University of TN, Knoxville	Knox	Education	9,384
Knox County Public Schools	Knox	Education	7,949
Wal-Mart Stores	MSA	Retail	6,863
University Health System	Knox	Health Care	5,458
Denso[3]	Blount	Automotive Parts	5,350
Oak Ridge National Lab[1]	Roane	National Security	4,876
Dollywood Co.[4]	Sevier	Amusement Park	4,500
State of Tennessee	Knox	Regional Government	3,286
McDonald's Corp	MSA	Restaurant	3,113
K-VA-T Food Stores (Food City)	Knox	Retail	3,104
Sevier County Schools	Sevier	Education	3,000
Tennova Health System[5]	Knox	Health Care	2,900
Roark Capital Group	MSA	Restaurant	2,788
Kroger Co	MSA	Retail	2,651
City of Knoxville	Knox	Government	2,644
Knox County	Knox	Government	2,500
Clayton Homes	Blount	Mobile Homes	4,883
Blount Memorial Hospital	Blount	Healthcare	2,647
Team Health Inc.	Knox	Healthcare	2,260
Yum! Brands	MSA	Restaurants (KFC, Pizza Hut & Taco Bell)	1,902
Pilot / Flying J	Knox	Fuel and Travel Centers	1,893
JTEKT Automotive	Monroe	Automotive Manufacturing	1,893
Cracker Barrel	MSA	Restaurant	1,854
East TN Children's Hospital	Knox	Health Care	1,847
U.S. Bank	MSA	Bank	1,738
Arconic (formerly ALCOA)[6]	Blount	Aluminum Ingot, Coiled Steel	1,731
Blount County Schools	Blount	Education	1,701
McGhee Tyson ANG Base	Blount	Air National Guard Unit	1,609
Summit Medical Group	Knox	Health Care Providers	1,556
CVS Caremark Inc.	MSA	Retail	1,534
United Parcel Service	Knox	Transportation	1,450
Copper Cellar Corp	Knox	Restaurants (Calhoun's & etc)	1,410
Hamblen County Schools	Hamblen	Education	1,410
Lowe's Home Improvement	MSA	Retail	1,375
Home Depot	MSA	Retail	1,375

Name	**County**	**Industry**	**Employment**
Jefferson County Schools	Jefferson	Education	1,348
Darden Restaurants	MSA	Restaurants (LongHorn & Olive Garden)	1,340
Tennessee Valley Authority[7]	Knox	Power	1,326
Wyndham Hotel Group	Sevier	Hotel	1,252
Hilton Worldwide	MSA	Hotel	1,201
Jewelry Television	Knox	Home-Shopping Cable Network	1,200
Knoxville Utilities Board	Knox	Utility	1,106
Koch Foods, Inc.	MSA	Poultry Prodution	1,100
Old Dominion Freight	Hamblen	Transportation	1,100
U.S. Postal Service	MSA	Mail Service	1,060
Anderson County Schools	Anderson	Education	1,050
Target Co.	MSA	Retail	1,045
Pellissippi State Tech. College	Knox	Education	1,019
Oak Ridge Associated Universities[1]	Roane	National Security	1,017
MAHLE Engine	Hamblen	Automotive Manufacturing	1,015
Knoxville Utilities Board	Knox	Utilities	1,014
Monroe County Schools	Monroe	Education	1,009
Maryville City Schools	Blount	Education	973
Roane County Schools	Roane	Public School System	950
Discovery, Inc.	Knox	Discovery Channel Networks	937
Walgreens Co.	MSA	Retail	934
University Physicians Association	Knox	Health Care Providers	920
Restaurant Brands Int'l (Burger King)	MSA	Restaurants	910
Choice Hotels Int'l	MSA	Hotels	902
Keurig Dr. Pepper	Knox	Coffee Manufacturing	900

[1] Joint venture of University of Tennessee and Battelle. The total employees for the ORNL, Y-12 facility and contractors is 15,862.
[2] Includes Ft. Sanders Reg Med Center, Parkwest, Methodist Med Center & all other Covenant Hospitals in the area.
[3] Headquarters based in Blount Co., but employment excludes some 874 employees working in McMinn Co.
[4] Employment figure is based on Operating season; it drops to around 300 during the off-season.
[5] Includes all Tennova Health System hospitals in the area.
[6] Includes some employees working in Knox Co.
[7] Includes Corporate headquarters in Knoxville, Bull Run Steam Plant, Norris and Corryton.

Source: Knoxville Chamber of Commerce - 2020.

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EMPLOYMENT INFORMATION

For the month of December 2020, the unemployment rate for Knoxville stood at 5.9% with 96,266 persons employed out of a labor force of 102,333. For the month of December 2020, the unemployment rate for Knox County stood at 5.2% with 242,457 persons employed out of a labor force of 255,750. The Knoxville MSA's unemployment for December 2020 was at 5.6% with 424,688 persons employed out of a labor force of 449,666. As of December 2020, the unemployment rate in the Knoxville-Morristown-Sevierville CSA stood at 5.6%, representing 541,481 persons employed out of a workforce of 573,631.

The following charts show unemployment trends in the area for the last 5 years:

Unemployment

	Annual Average **2015**	Annual Average **2016**	Annual Average **2017**	Annual Average **2018**	Annual Average **2019**
National	5.3%	4.9%	4.4%	3.6%	3.9%
Tennessee	5.6%	4.7%	3.8%	3.5%	3.4%
Knoxville	**5.2%**	**4.4%**	**3.4%**	**3.1%**	**N/A**
Index vs. National	98	90	77	86	
Index vs. State	93	94	89	89	
Knox County	**4.7%**	**4.0%**	**3.2%**	**3.0%**	**2.9%**
Index vs. National	89	82	73	83	74
Index vs. State	84	85	84	86	85
Knoxville MSA	**5.3%**	**4.4%**	**3.6%**	**3.3%**	**3.2%**
Index vs. National	100	90	82	92	82
Index vs. State	95	94	95	94	94
Knoxville-Sevierville-Harriman CSA	**5.5%**	**4.6%**	**3.7%**	**3.4%**	**3.3%**
Index vs. National	104	94	84	94	85
Index vs. State	98	98	97	97	97

Source: Tennessee Department of Employment Security, CPS Labor Force Estimates Summary.

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A diversified economy is credited for the stability of local employment and wages for the Knoxville MSA in 2019:

Industry	**Employment Number**
Crop and Animal Production	188
Mining, Quarrying, and Oil and Gas Extraction	130
Utilities	5
Construction	11,356
Manufacturing	12,309
Wholesale Trade	11,909
Retail Trade	31,196
Transportation and Warehousing	8,198
Information	4,817
Finance and Insurance	9,416
Real Estate and Rental and Leasing	3,479
Professional, Scientific and Technical Services	11,314
Management of Companies and Enterprises	6,040
Administrative, Support, Waste Management & Remediation	22,501
Educational Services	2,336
Health Care and Social Assistance	36,019
Arts, Entertainment, and Recreation	3,209
Accommodation and Food Services	25,421
Other Services (except Public Administration)	6,820
Government	31,456
Unclassified	12
TOTAL	**270,262**

Source: Tennessee Department of Economic and Community Development.

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RECREATION AND TOURISM

Although industry is frequently considered the core of an economic base, secondary and tertiary activities also make important contributions to economic development. The County has over 6,330 acres of park and recreation space, with approximately 198 miles of greenways and walking trails. The arts and culture are well served, with the Knoxville Symphony, Knoxville Opera Company, Knoxville Museum of Art, and several performing arts organizations, including the Clarence Brown Theater, providing numerous cultural opportunities. Live entertainment includes touring Broadway productions and many concerts at numerous venues throughout the area, including the historic, beautifully renovated Tennessee and Bijou theaters.
Source: Knox County Comprehensive Annual Financial Report – 2020.

The convention and tourist business contribute to the County's economic base in the sense that income is drawn into the region resulting in employment and investment opportunities in tourist-related facilities.

Sports. Knox County has over 6,317 acres of park and recreation space, including 20 recreation centers, four senior citizen centers, four skateparks, eight dog parks, ten public golf courses, and approximately 184 miles of greenway and walking trails. Just three miles from downtown is 1,000 forested acres and 50 miles of multiuse trails known as Knoxville Urban Wilderness.

The Tennessee Smokies provide AA minor league baseball in neighboring Sevier County. The Knoxville Ice Bears provide professional hockey at the Coliseum October through March. National championship UTK sports teams, including the 2007 and 2008 NCAA National Champion Lady Vols, draw thousands of enthusiasts to games each year. The City is also home to the Women’s Basketball Hall of Fame.

State and National Parks. The County is the principal gateway area to the Great Smoky Mountains National Park (the “GSMNP”), located 40 miles to the southeast. The beauty of the Great Smoky Mountains has always attracted visitors to this region. There are over 500,000 acres that make up the nation's most visited National Park, extending over the states of Tennessee and North Carolina. The GSMNP received 12.5 million visitors in 2019, more than twice the number of any other national park in the country. Major attractions in the Smokies are Gatlinburg (40 miles southeast of the City), a tourist town in the mountains with overnight accommodations for 60,000 people, and Pigeon Forge (20 miles southeast of the City), a tourist town at the foothills of the mountain with overnight accommodations for 40,000 people. Numerous restaurants, gift and craft shops, along with ski lodge, ski lifts and tramway, make Gatlinburg a year-round resort town. Pigeon Forge is known for being home to hundreds of retail outlets and Dollywood, a theme park named for the country music singer, Dolly Parton.

Other parks and recreational areas in the Greater Knoxville area include: Big South Fork National River and Recreational Area 100,000 acres; Frozen Head State Natural Area 11,562 acres; Norris Dam State Resort Park 4,000 acres; Big Ridge State Park 3,687 acres; Cumberland Mountain State Park 1,720 acres; Panther Creek State Park 1,400 acres; Cove Lake State Recreational Area 667 acres; Roan Mountain State Resort Park 600 acres; Fort Loudon State Historical Area 500 acres; Indian Mountain State Park 213 acres; Warriors’ Path State Recreational Park 500 acres; Trail of the

Lonesome Pine: State Scenic Trail 35 miles; and Cumberland Trail: Section II: Tennessee Scenic Trails System Act 31 miles.

Lakes and Wildlife. Seven TVA lakes surround Knoxville and provide year-round fishing and boating. There are no closed seasons on TVA waterways. Area lakes provide over 3,425 miles of shoreline and 266 square miles of water surface.

Alpine Skiing. Ober Gatlinburg Ski Resort in Sevier County and Cumberland Gardens Resort in nearby Cumberland County offer convenient facilities for winter skiing.

Conventions, Events and Festivals. Special seasonal events include the Dogwood Arts Festival in the spring and December's celebration, Christmas in the City. Knoxville supports an active tourism and convention trade with a 500,000-square-foot convention center located downtown at World's Fair Park. Other local facilities are a large civic coliseum/auditorium, two exhibition halls, and UTK's 22,000-seat Thompson Boling Arena.

Cultural Activities. The General James White Memorial Civic Auditorium and Coliseum Complex, the historic Tennessee Theatre and the Bijou Theater host a variety of performances, including the Knoxville Symphony Orchestra, touring Broadway productions, ice shows, circuses, concerts of all types and the professional hockey team, The Knoxville Ice Bears. Local radio station WDVX hosts a live radio broadcast weekdays downtown called "The Blue Plate Special" where nationally known artists and area performers appear free of charge.

The University of Tennessee Theaters continue to provide a wealth of entertainment and culture to Knoxvillians. The Clarence Brown Theater, UTK's premier performance space, seats 600 in a proscenium theater. The Clarence Brown Theater Company is dedicated to the classics of the stage and produces three full scale and one or two touring productions each season. The Carousel Theater is UTK's smaller theater which holds 250-300 people.

The Knoxville Museum of Art and the Emporium Center for Arts and Culture feature changing exhibits throughout the year, while the area's libraries, historic sites, and museums, such as East Tennessee History Center, McClung Museum of Natural History and Culture, Museum of Appalachia, and Beck Cultural Center, celebrate regional heritage.

Other popular events in Knoxville are presented by the Knoxville Symphony Orchestra, Knoxville Opera, the Appalachian Ballet Company, Circle Modern Dance Company, Carpert Bag Theatre, Tennessee Stage Company, Tennessee Valley Players, Knoxville Choral Society, and the Tennessee Children's Dance Ensemble, the only professional dance troupe for children in the country.

Ijams Nature Center. Ijams Nature Center is a nonprofit environmental education and resource center located on 300 acres on the banks of the Tennessee River in South Knoxville. The area encompasses woods, meadows, sinkholes, a spring-fed pond, and informal perennial gardens connected by a series of trails. The park has been developed to display East Tennessee's ecological systems at work and provide a conservation area for wildlife indigenous to the park. A number of high-quality programs, events, and environmental information are available to schools, the media and the general public.

Knoxville Zoological Gardens (the "Zoo Knoxville"). Zoo Knoxville is recognized as one of the top 20 zoos in America. It is located on 80 acres and has more than 1,000 species of animals. Zoo Knoxville has the largest "big cat" collection in the United States and is home to the first African Elephant birth in the United States. Zoo Knoxville is also home to the newly developed Gorilla Valley, where three baby gorillas were born during 2015 and 2016. The gorillas are the first of the endangered species to be born at the park and the first born in Tennessee in 30 years. Zoo Knoxville has a collection of red pandas and is the world leader in captive breeding of this rare breed. In addition, a critically endangered red wolf pup was born at the zoo in April 2016; the male pup is the first red wolf born at the zoo in 23 years.

Source: Knoxville News Sentinel and the Knox County Metro Planning Commission 2018.

RECENT DEVELOPMENTS

Following are some recent developments within the boundaries of the City and County and the Knoxville MSA that have had a direct economic impact on the area. The source for statistical information below is the Knoxville Area Chamber Partnership, the City of Knoxville, the Knoxville-Knox County Metropolitan Planning Commission, the Knoxville News Sentinel and The Daily Times.

EAST KNOX COUNTY

Booz Allen Hamilton Inc. The technology consulting firm Booz Allen Hamilton expects to create 52 new jobs over the next five years (2019-2024) and invest more than $3.6 million in new R&D facility located in Knoxville. Booz Allen is investing in the expansion of its engineering business by locating a research and development facility in Knoxville. Activities at this facility will include engineering, prototyping and testing for a variety of technical systems. Booz Allen provides management and technology consulting, engineering, analytics, digital, mission operations and cyber solutions to governments, corporations and not-for-profit organizations in the United States and internationally. The company has more than 26,000 employees and 80 offices worldwide.

Fraley and Schilling, Inc. The trucking company, Fraley and Schilling, Inc., began expanding its operations in Knoxville in 2020. As part of the expansion, Fraley and Schilling will invest $2.4 million and add 50 office jobs over the next five years. Due to growing demand in transportation and logistics, Fraley and Schilling is expanding by adding a new terminal building, which is currently under construction. The new building will be the largest in the company at approximately 11,600 square feet. Founded in 1955, Fraley and Schilling is a trucking and logistics provider, specializing in lightweight equipment for hauling heavy products. Today, Fraley and Schilling employs 250 people in Tennessee and more than 700 in the U.S., and operates over 500 trucks across the eastern half of the U.S.

Fresenius Medical Care. The German company Fresenius Medical Care located its East Coast manufacturing facility in Knoxville in 2016. mThe company is a renal services provider. The $140 million project brings a dialysis production plant to the city's old Panasonic building and creates about 665 jobs.

Keurig Green Mountain. In early 2016, a group of investors led by JAB Holding Company acquired Keurig Green Mountain. In 2009, an $8 million investment in the plant added coffee processing equipment and coffee silos. In 2014, Keurig Green Mountain built a $4 million expansion of its Knox County operation to boost efficiency, without many jobs created. Keurig Green Mountain's Knoxville operation employs about 950 people in 2015. Keurig Green Mountain is a privately held company and remains an independent entity run by its existing management team. The company started production in late 2008 at a new 334,000-square-foot facility in Forks of the River Industrial Park. The company invested about $55 million dollars on the plant and had a staff of about 25.

Knox County Detention Center. The Detention Center in east Knoxville installed in 2015 over 300 solar panels, five solar storage tanks, 65 concrete pads and more than 6,000 feet of copper piping to make it one of the largest solar thermal systems for domestic use in the nation. Trane, Knox County and FLS Energy partnered to save Knox County $60,000 annually in switching from natural gas to solar power as the primary way to heat water for the detention center's 1,036 inmates. The project was funded by a $1.88 million grant from the U.S. Department of Energy. The County also renovated and upgraded 40 facilities, 24 parks and 37 traffic intersections with the grant money. The total project is expected to save the County about $6 million annually.

Leisure Pools. Leisure Pools, which makes composite swimming pools, announced in 2013 that it was moving its headquarters to Knox County and creating about 240 jobs. The company acquired the old Sea Ray facility in the Forks of the River Industrial Park for about $4.5 million. Many of the laid-off Sea Ray employees have transitioned to the new company since much of the same equipment and systems used by the boat company will be used by Leisure Pools.

Lifetime Products. The Utah-based plastics company broke ground in May 2016 on a $115 million, 720,000-square-foot manufacturing facility at the Forks of the River Industrial Park. The plant is expected to generate 500 new jobs. This facility will produce the company's line of water sport products including kayaks and paddleboards, as well as their outdoor Play System line of products.

Melaleuca. Located in the Forks of the River Industrial Park, Melaleuca is expanding its operations and will hire up to 500 more workers in the next 10 years. A 222,000-square-foot distribution center was opened in mid-2010. Melaleuca produces nutritional supplements, cleaning supplies, personal care and other products and sells these through workers who operate as direct marketers. The company has been operating in Knoxville since 1993.

WEST KNOX COUNTY

ADT Corporation. An expansion to ADT's facilities and workforce in 2013 resulted in the addition of about 300 more workers. ADT provides electronic security for residential and small business customers in the U.S. and Canada. Its Knoxville center has about 300 workers and, following a recent upgrade, the facility is now ADT's IT Disaster Recovery Center.

Cellular Sales Verizon Wireless. Cellular Sales Verizon Wireless is a Knoxville-based company that operates authorized Verizon Wireless stores nationwide. In 2014, the company expanded its facility in West Knoxville, resulting in 250 new jobs. The company operates nearly 500 stores across the country. The Knoxville-based company is the nation's largest premium Verizon retailer.

Comcast. Comcast's call center hired 250 additional employees, part of the mass media company's move to enhance nationwide customer care. The jobs were filled before the end of 2017. The move allows Comcast to answer more calls in an efficient and timely manner. The expansion is part of a national Comcast hiring wave, with a projected 5,500 new jobs to be created across America within the next three years. The changes have greatly affected the Knoxville branch, a 96,000-square-foot facility that underwent a $7 million dollar facelift in 2015.

East Tennessee Healthcare Center. Construction was completed in 2014 on a $119 million proton therapy center in the East Tennessee Healthcare Center. ProNova, a division of Provision Health Alliance, installed three cyclotron parts for its compact proton therapy system. The two-room ProNova SC360 system uses patent-pending superconducting magnet technology to treat cancer patients. It will be the first in the world to treat patients in this manner. The system is smaller and more cost effective than traditional proton therapy systems. The system came online in December of 2014, has gained FDA Clearance, and began treating patients in 2017.

The development is situated on 120 acres in the 90,000-square-foot Dowell Springs Business Park, a central location to physicians, hospitals, and area residences. The project has an estimated $1.5 million annual economic impact that will create 1,250 construction jobs and 100 full time employees. Proton therapy is a noninvasive and painless form of precision radiation treatment that has minimal to no side effects. It is expected to treat up to 1,500 patients per year. There are about 10 proton therapy centers operating in the country.

Initial construction of Dowell Springs Business Park was completed in 2009 and includes a $35 million medical office development, consisting of two buildings which offer 175,000 square feet of clinical and office space. The Knoxville Comprehensive Breast Center and Tennessee Cancer Specialists are the anchor tenants of the office space. Plans for the grounds support the East Tennessee Healthcare Center's holistic approach to wellness and healthy living with "walking paths, waterfalls and beautiful mountain views."

Parkwest Medical Center. Parkwest Medical Center broke ground in 2018 on a $99 million expansion and renovation that is expected to be completed by 2021. The project includes both adding on to the existing facility and new construction to give the hospital a "campus-like design", with more street-level parking. The two main phases of the project should be completed in June 2019 and January 2020.

Pilot Flying J Travel Centers. In 2017, Berkshire Hathaway purchased a minority share in the Knoxville-based Pilot Flying J, the largest operator of travel centers in North America with 750 locations and more than $20 billion in revenues. Until 2023, Berkshire Hathaway will have 38.6 percent equity stake while the Haslam family will hold a majority interest with 50.1 percent ownership. After 2023, Berkshire Hathaway will become the majority shareholder with 41.1 percent stake with the Haslam family dropping to hold 20 percent ownership.

Scripps Networks. Discovery Communication bought Scripps Networks Interactive for $14.6 billion in early 2018. Part of the sale will mean that its pre-recorded transmission functions will be moved from Knoxville to Virginia by the end of January 2019. The number of layoffs has yet to be announced. The Travel Channel (part of the Scripps Networks) moved its headquarters from Maryland to Knoxville in 2016. About 100 employees moved with the company. Scripps Network relocated its corporate headquarters in 2010 to the City from Cincinnati. The company's technical center - which includes satellite uplink operations, a control center for all its television networks and a wide range of other administrative, business and creative functions - is also based in the City. Scripps Network is the home of Home and Garden TV network and had revenues totaling $3.6 billion in 2017.

TeamHealth. In 2016, Physician services company TeamHealth announced an expansion of its Knoxville headquarters due to anticipated growth over the next three to five years. The company will invest $6.7 million to construct additional office space adjacent to its current headquarters in west Knoxville. The company also plans to add 250 jobs in Knox County.

Tennova Healthcare. Tennova Healthcare announced in early 2018 that all three of its Knoxville hospitals - Physicians Regional, Turkey Creek, and North Knoxville Medical Center - will undergo restructuring and moving of services between the facilities and to include some renovations. The changes are expected to be completed in 2020. There are no expected layoffs to occur.

NORTH KNOX COUNTY

Physicians Regional Medical Center (the "Physicians Regional"). The Physicians Regional Medical Center was closed by Tennova Healthcare at the end of 2018. Tennova has announced plans to build a new medical center in West Knoxville.

WS Packaging Group, Inc. WS Packaging opened a new $43 million expansion in 2014 of its current operations by opening a new location in the PBR building in northwest Knox County. The expansion increased operations and consolidated its Knoxville facilities. The expansion brought 231 new jobs.

SOUTH KNOX COUNTY

Regal Entertainment Group. In early 2018, Regal Entertainment Group was acquired by Cineworld Group. Cineworld Group is based out of London and is the United Kingdom's largest cinema operator. Regal said it is committed to keeping its HQ in Knoxville and maintaining a strong presence in the city after the merger, saying it would "remain business as usual."

Regal is currently headquartered in a nine-story office building on the former Baptist Hospital site on Knoxville's south waterfront.

South Knoxville Waterfront. Demolition of the former Baptist Hospital site was completed in 2015 to make way for the new project. The South Knoxville Waterfront project will include: a $60 million Riverwalk at the Bridges apartment complex that will house up to 600 residents to be completed in late 2019; a $40 million 303 flats student apartments completed in fall 2018, and Regal Entertainment completed a $12 million makeover of the former medical office building in late 2017.

DOWNTOWN BUSINESS DISTRICT

Bassmaster Classic. In March of 2019, the GEICO Bassmaster Classic was held in downtown Knoxville on the Tennessee River. The Economic impact during the competition was $32.2 million with 153,000 people in attendance. This exceeded the economic impact and attendance made in the prior year's Bassmaster Classic held in South Carolina.

The $32.2 million breaks down into a direct economic impact of $17.7 million and an indirect boost of $14.5 million in business sales, according to a report by the Visit Knoxville Sports Commission. Roughly $2.75 million was generated in state and local tax revenue, including taxes on sales, restaurant purchases and lodging, according to the release. Attendees from nearly every state and from countries as far as Australia, Italy and Japan paid for 29,232 nights in local hotels, according to Visit Knoxville. In addition to media that work for B.A.S.S, the event organizer, more than 250 credentialed media members from 28 states and six foreign countries attended the event. Of the 153,000 people who attended the Bassmaster Classic, a record 92,819 people attended the Bassmaster Classic Outdoors Expo at the Knoxville Convention Center and World's Fair Exhibition Hall, according to turnstile counts.

CGI. Global IT and business consulting company CGI will locate new operations in Knoxville for its eighth U.S. IT delivery center. In 2021, CGI will invest $27 million and create 300 jobs over the next five years. CGI offers IT delivery options to its government and commercial industry clients. The Knoxville location will become the newest member of CGI's innovative U.S. delivery center network that will help clients gain access to high quality, U.S.-based IT services, support and solutions. CGI is partnering with the University of Tennessee, Knoxville on the launch of the IT delivery center and will be working with the university to engage students across interdisciplinary programs in colleges such as the Haslam College of Business and the Tickle College of Engineering. CGI will partner with the university to build a talent pipeline focusing primarily on advanced analytics, cybersecurity and digital transformation through emerging technologies for the new Knoxville facility. Founded in 1976, CGI Fiscal 2020 reported revenue is $12.16 billion.

Converted Apartments. Several notable downtown buildings have been converted into apartment spaces. A former office property, the Medical Arts Building, was converted to 49 apartments with some retail spaces in 2014. It is located close to the courthouses and has an attached parking garage. The Tailor Lofts building on Gay Street was also converted into nine apartments plus a ground-floor restaurant.

East Tennessee Children's Hospital. The non-profit Children's Hospital completed a $75 million expansion in November 2016. The expansion offers over 245,000 square feet of new space, including a 44-bed, private room Neonatal Intensive Care Unit, a new perioperative surgery center, two levels of parking and enhanced family areas, such as roof-top gardens. Additional renovations to 71,900 square feet of the original building were completed in Fall 2017.

Farragut Hotel. Dover Development Corporation received an incentive package from the Knoxville Industrial Development Board in 2015 to freeze the property taxes at their current rate before the property is redeveloped. Demolition began in late 2015 and plans call for four storefronts. Hyatt Place opened a hotel in the historic building in 2018.

Fort Sanders Apartments. A Georgia firm bought up property near the Fort Sanders Hospital for $6.3 million to build 240 student apartments. Construction began in 2015 and rentals began in 2017.

Fort Sanders Regional Medical Center. Fort Sanders Regional Medical Center announced in 2018 plans for a $115 million expansion to the hospital that includes new critical care and intermediate care beds and emergency department rooms over the next 12 to 24 months. In addition to new beds, the expansion will create easier access to the facility and improved parking.

Gulf & Ohio Railways. The Knoxville Locomotive Works operation of the Gulf & Ohio Railways, a Knoxville-based short line railroad, renovated its existing facility to begin producing locomotives based on its fuel-efficient prototype. This $6 million expansion created 203 jobs for the company and was operational in 2014.

Local Motors. Local Motors will produce its newest car, the LM3D Swim, at a Knoxville factory that opened in early 2017. The Knoxville site is the company's first digitally enabled microfactory, meaning it can 3-D print finished pieces directly from digital designs with no tooling or casting. The LM3D Swim will be manufactured mostly through 3-D printing with some traditionally made automotive components. The Knoxville factory will launch with four or five 3-D printers and have the capacity to produce about 2,400 vehicles a year. The factory will also serve as a retail showroom. The car is expected to cost about $53,000, depending on customization choices.

Marble Alley Lofts. Just off Gay Street, a developer began construction in 2014 on a 238-unit apartment complex. The project was in development since 2009. The first phase of construction, completed in February 2016, includes an internal parking garage with the apartment building foundations built surrounding the garage. Additional retail and commercial space is planned for the second phase.

Solar Arrays on County-Owned Buildings. In 2015, the County installed 5 megawatts of solar photovoltaic systems on the rooftops of several County buildings. The $12.5 million project is expected to provide more than $29 million in energy savings to the county over the next three decades. Along with the Knox County Central building, a total of 11 schools and three other public buildings have solar panels. The solar array at the L&N Stem Academy is connected to a kiosk so that students can participate in monitoring the system.

Scapa Healthcare. Scapa Healthcare officials announced in 2018 that the company will expand its Knoxville operations. The global supplier and manufacturer of adhesive-based products will invest approximately $40 million and create more than 85 new jobs in Knox County. Scapa Healthcare plans to consolidate its three buildings in Knoxville into a single location in Knox County. The company will construct a more than 150,000-square-foot facility in the Knoxville-area to expand operations and keep up with growing demand.

Scapa Healthcare is a global supplier of bonding solutions and a manufacturer of adhesive-based products for the healthcare and industrial markets. The company has a global footprint with production sites in Asia, Europe and the U.S.

Tennessee Valley Authority (the "TVA"). TVA was established as a wholly-owned corporate agency and instrumentality of the United States of America by the Tennessee Valley Authority Act of 1933 (the "TVA Act"), as amended. TVA Act's objective is the development of the resources of the Tennessee Valley and adjacent areas in order to strengthen the regional and national economy and the national defense. Its specific purposes include: (1) flood control on the Tennessee River and its tributaries, and assistance to flood control on the lower Ohio and the Mississippi Rivers; (2) a modern navigable channel for the Tennessee River; (3) ample supply of power within an area of 80,000 square miles; (4) development and introduction of more efficient soil fertilizers; and (5) greater agricultural and industrial development and improved forestry in the region. TVA, a corporation owned by the U.S. government, provides electricity for utility and business customers in most of Tennessee and parts of Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia — an area of 80,000 square miles with a population of 9 million. The utility operates 29 hydroelectric dams, 8 coal-fired power plants, three nuclear plants, 16 natural gas-fired power facilities, 14 solar energy sites, and one wind energy site and supplied 152 billion kilowatt-hours of electricity in fiscal year 2017.

In 2014, 750 employees voluntarily retired or resigned from TVA. Another 1,000 vacant positions were eliminated to result in the largest staff reduction that the federal utility has undergone in more than 20 years. The goal was to reduce $500 million in annual expenses in 2015.

In April of 2011, TVA announced plans to retire 18 coal-fired units at three of its older fossil plants, effectively closing one of the plants. This action is in an unprecedented agreement with the Environmental Protection Agency, four states and three environmental groups to settle complaints that the federal utility violated the Clean Air Act. TVA's board of directors approved the shutdown of two units at the John Sevier plant near Rogersville, TN, six at Widows Creek in North Alabama and all 10 units at the Johnsonville plant in Middle Tennessee. The permanent shutdowns, called retirements, took place in phases throughout 2017 and affected 300 to 400 workers. The combined idled and retired units will reduce TVA's coal-fired capacity by 2,700 megawatts out of the total 17,000 megawatts generated by the country's largest public utility. The utility also has to invest $3 billion to $5 billion on pollution controls and $350 million on clean energy projects. Penalties include a $1 million to the National Park Service and the National Forest Service and a civil penalty of $10 million to various entities, including the states of Alabama, Kentucky and Tennessee.

In 2007, TVA restarted a nuclear reactor at Browns Ferry in North Alabama. It was the first time the reactor had been at full power in 22 years. TVA spent five years and about $2 billion revamping the reactor. It was the first increase in the United States' nuclear generating capacity since 1996.

The Unit 2 reactor at Watts Bar Nuclear Plant in Rhea County, TN was granted an operating license in October of 2015, nearly 43 years after the original construction permit was awarded. The license allows TVA to load nuclear fuel into the new unit and begin testing of the equipment. Total estimated project cost reached $4.7 billion, and the reactor began producing power for commercial consumption in 2016.

UNIVERSITY OF TENNESSEE

The University of Tennessee Knoxville Campus is undergoing a record $1 billion makeover to transform the look and feel of the campus to improve facilities and infrastructure to become a Top 25 public research institution.

Cherokee Campus. The Cherokee Farm concept came into being in 2001 as a way to further research by UT and ORNL in computational sciences, climate and environment, advanced materials, biomedical sciences, and renewable energy. UT and ORNL started development of the campus with $87 million in capital investments and incentives. This is part of a UT goal to join the ranks of the nation's top 25 public research universities. The former site of UT's 188-acre dairy operation was chosen and development of 77 acres of the property began in 2010. The farm is less than a mile from the Knoxville campus.

The first building, the $47 million, 142,000-square-foot Joint Institute for Advanced Materials facility, opened in early 2016. The rest of the campus will include 16 building sites. These sites, ranging up to 2 acres, should allow a total of 1.6 million square feet of development. Moving research to the Cherokee campus would free up buildings on the main campus, which could be renovated and used for additional administration and instructional space.

The Joint Institute for Advanced Materials building will house seven high-powered microscopes that researchers from UT, ORNL and elsewhere will use in screening and analyzing materials. The work is oriented toward producing strong, lightweight materials for the automotive and aerospace industries. Researchers will also be able to make use of supercomputers "Kraken" at UTK and "Titan" at ORNL.

The first private tenant at Cherokee Farm was announced in May 2016. Civil and Environmental Consultants, Inc. (CEC) is recognized for providing innovative design solutions and integrated expertise in the primary practice areas of civil engineering, ecological sciences, environmental engineering and sciences, survey, waste management and water resources.

Classroom and Science Laboratory Facility. A 22,000-square-foot, $5 million building will house a classroom and science laboratory facility. It is expected to be completed in 2018. It will house research laboratories, a vivarium, classrooms, and faculty offices. It will be between the Jessie Harris Building and the Hoskins Library.

Ken and Blaire Mossman Building. Situated on the former site of three historic houses in the Fort Sanders area, the building will house portions of microbiology, biochemistry, cellular and molecular biology, psychology and nutrition. The $96 million project was completed in September 2018.

Science Laboratory Facility. In early 2015, construction began on the new Science Laboratory Facility, a $114 million nine-story modern science class and laboratory facility at the Strong Hall dormitory site. It will feature 500-seat and 250-seat lecture halls, general purpose classrooms and house the Anthropology and Earth and Planetary Sciences departments. It was completed in Spring 2017.

Steam Plant Conversion. The coal-fired boilers have been removed and replaced with natural gas boilers at the steam plant on campus. The large smokestacks were removed. The conversion cost $25 million and was completed in Summer 2016.

Stokely Athletic Center and Dorm Gibbs Hall. In 2014, demolition was completed on the closed and outdated buildings that were Stokely Athletic Center and Gibbs Hall. The Stokely Athletic Center, the home of the basketball team before the move to the Thompson-Boling Arena, was built in 1958 and was closed in 2012. The Dorm Gibbs Hall was built in 1963 with only the dining services remaining operational in recent years. First, a 1,000-space parking garage was built along Volunteer Boulevard, costing $38 million. Second, UTK built a 600 bed co-ed resident hall with added services like dining. At a cost of $94.3 million, construction was completed in January 2017. And third, an extension to the current Haslam football practice field is planned. According to

UTK, a sole private donation funded the $10 million project. The extension was completed in 2018.

Student Union. The new 391,000-square-foot, six-story, $167 million Student Union project began construction in 2014 and will be completed in Spring 2019. It will replace the outdated University Center that was originally built in 1952. It will hold a 50,000-square-foot bookstore, ten dining establishments, a 10,000-square-foot auditorium and a 12,000-square-foot ballroom.

Support Services Complex. Completed in Spring 2016, the new Support Services Complex is a $18.7 million complex that reuses a former industrial facility to house the 91,000-square-foot Department of Facilities headquarters and other units. It will feature offices, warehouses, workshops, labs and fleet parking.

Torchbearer Plaza / Circle Park. The $1.2 million renovation project on the Torchbearer statue at Circle Park was completed in September 2015. The project rebuilt and enlarged the plaza area while renovating the landscaping and lighting.

West Housing Redevelopment. The West Housing Redevelopment project is a multiphase, $234 million project to replace the dining facilities and six residence halls (North Carrick, South Carrick, Reese, Humes, Morrill, and Andy Holt Apartments) with seven new halls and a community dining facility on the Presidential Court Complex. The first new residence hall to be built in 43 years, Fred Brown Residence Hall, opened for the 2014-2015 semester. The others are scheduled to be finished by 2019.

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CONSOLIDATED SYSTEMS
REPORT OF INDEPENDENT AUDITORS AND FINANCIAL STATEMENTS

KUB
Knoxville Utilities Board

Consolidated

Financial Statements and Supplemental Information
June 30, 2020 and 2019

KUB Board of Commissioners

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Adrienne Simpson-Brown - Vice Chair

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Chief Operating Officer

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Chief Technology Officer

John Williams
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Construction

Mike Bolin
Vice President of Utility
Advancement

Julie Childers
Vice President and
Century II Administrator

John Gresham
Vice President of
Operations

Knoxville Utilities Board
Index
June 30, 2020 and 2019

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Independent Auditor's Report

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

We have audited the accompanying financial statements of the Knoxville Utilities Board (KUB), a component unit of the City of Knoxville, Tennessee, as of and for the years ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise KUB's basic financial statements as listed in the index.

Management's Responsibility for the Financial Statements

KUB's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to KUB's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of KUB's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of KUB as of June 30, 2020 and 2019, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 27 and the required supplementary information on pages 74 through 78 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise KUB's basic financial statements. The Schedule of Expenditures of Federal Awards and State Financial Assistance, as required by Title 2 U.S. Code of Federal Regulations, Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* and the State of Tennessee is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The Schedule of Expenditures of Federal Awards and State Financial Assistance is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Expenditures of Federal Awards and State Financial Assistance is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The statistical information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 29, 2020, on our consideration of KUB's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering KUB's internal control over financial reporting and compliance.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. KUB's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC), the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC), and the Governmental Accounting Standards Board (GASB), as applicable.

This discussion and analysis is designed to (a) assist the reader in focusing on significant financial issues, (b) provide an overview of KUB's financial activity, (c) identify major changes in KUB's financial position, and (d) identify any financial concerns.

The Management Discussion and Analysis (MD&A) focuses on the fiscal year ended June 30, 2020 activities, resulting changes and current known facts, and should be read in conjunction with KUB's consolidated financial statements.

Consolidated Highlights

System Highlights

As of June 30, 2020, KUB served 468,033 customers. KUB added 3,396 new customers in fiscal year 2020, representing growth of less than one percent.

For the second year in a row, KUB's system was impacted by excessive rainfall. After record setting levels in 2019, KUB experienced sustained rainfall amounts exceeding Knoxville's ten-year average for eight months of fiscal year 2020. Electric system reliability was affected, resulting in 2.44 hours of service interruption for the average customer. Despite the record rainfall levels, KUB's water and wastewater systems functioned well. The excess rainfall levels resulted in higher costs at KUB's treatment plant, as intake water required additional treatment. The excess wastewater flows were diverted to system storage allowing KUB to level out the impact of events over longer durations of time.

KUB's energy sales in fiscal year 2020 were impacted by a milder winter in Knoxville. Natural gas sales decreased 3.2 percent from the prior year, while electric sales decreased 2.3 percent.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation.

As a result of the pandemic, KUB quickly responded with changes to lessen the economic burden on customers by deferring proposed rate increases and suspending disconnections for nonpayment. To offset the reduced revenues, KUB delayed projects to create more financial liquidity. KUB plans to enroll customers with past due balances in repayment plans and resume disconnects for nonpayment.

KUB's electric system's record peak in demand remains 1,328 megawatt hours, set in February 2015. The natural gas system's record peak demand remains 140,204 dekatherms, set in January 2018.

The third of three annual rate increases for each Division previously adopted by the KUB Board went into effect in fiscal year 2020. These rate increases provide additional revenue to help fund each system's respective Century II infrastructure program.

KUB sold $68.9 million in revenue refunding bonds in April 2020 for the purpose of refinancing existing revenue bonds at lower interest rates. KUB will realize a total debt service savings of $27 million over the life of the bonds.

KUB's electric system maintains a Diamond level designation by the American Public Power Association's (APPA) Reliable Public Power Provider (RP3) program, the highest level of recognition of the program.

KUB's natural gas system was named to the American Public Gas Association's (APGA) System Operational Achievement Recognition (SOAR) Program in 2018, reflecting KUB's focus on system integrity, continuous improvement, safety, and employee development. KUB is a Silver level winner and remains a member of the program through 2020. KUB was designated a Safety Contest Winner for calendar year 2019 by APGA, indicating the lowest number of recordable injuries per labor-hours worked.

KUB's treatment plants continue to meet high standards of operation. KUB was awarded the National Association of Clean Water Agencies (NACWA) Water Resources Utility of the Future Today recognition under the category of Beneficial Biosolids Use for 2019. The treatment plants additionally won awards based on performance under NACWA's peak performance recognition. Eastbridge and Fourth Creek wastewater treatment plants won silver awards for calendar year 2019.

KUB continued to maintain Platinum certification with the National Biosolids Partnership following a rigorous review process and independent audit that was conducted in December 2019. Biosolids are nutrient-rich organic matter produced by wastewater treatment and is a registered fertilizer with the Tennessee Department of Agriculture.

Century II Infrastructure Program

Century II is KUB's proactive long-range program to improve and maintain the electric, natural gas, water and wastewater systems for its customers. It includes maintenance and asset replacement strategies for each system and establishes sustainable replacement cycles. Century II moves KUB into its second century of service by improving each system through sound planning, resource allocation, and continued, but accelerated, investment.

In fiscal year 2015, KUB concluded the smart grid pilot project, of which a portion of the project was funded by a United States Department of Energy Smart Grid Investment Grant (SGIG). This grant was received by KUB in 2009 as part of the American Reinvestment and Recovery Act (ARRA). Based upon the success of that pilot, KUB formed a plan to move forward with a Century II Grid Modernization initiative, which includes advanced metering for all KUB customers, a telecommunication system linking critical KUB infrastructure, and an increased investment in automation technology to help operate KUB's energy and water distribution systems. Over the course of ten years, KUB plans to spend $124.4 million in this effort. The deployment is funded in large part by debt issues and system revenues. In fiscal year 2020, KUB completed the final year of the four-year advanced meter deployment, spending approximately $82.4 million. The project was completed on time and under budget.

In June 2017, the Board adopted three annual rate increases for all KUB Divisions. The three approved electric rate increases went into effect in October 2017, October 2018, and October 2019 generating $10.9 million, $11.2 million, and $5.7 million in additional annual Electric Division revenue, respectively. The three approved gas rate increases went into effect in October 2017, October 2018, and October 2019, generating $2.2 million, $2.3 million, and $2.3 million in additional annual Gas Division revenue, respectively. The three water rate increases went into effect July 2017, July 2018, and July 2019 generating $3.1 million, $3.1 million, and $3.3 million of additional annual Water Division revenue, respectively. The three approved wastewater rate increases went into effect in July 2017, July 2018, and July 2019 generating $4.3 million, $4.2 million, and $4.5 million in additional annual Wastewater Division revenue, respectively.

In fiscal year 2017, KUB completed the transition to a new disinfection system at the Mark B. Whitaker (MBW) Water Treatment plant.

KUB is currently in the process of implementing a Water Plant Redundancy initiative to ensure that high quality, reliable water service will be provided to customers over the long term. KUB maintains a single water treatment plant for its system. In lieu of building a second treatment facility to ensure capacity will be available to meet the needs of current and future water customers, KUB will invest approximately $149 million in various redundant facilities at the site of its existing Mark B. Whitaker Water Treatment Plant over a 15-year period that began in fiscal year 2017. Construction of a new generator building with three 2,500 kW diesel generators and associated switchgear is nearing completion at the Mark B. Whitaker Water Treatment Plant. Startup is scheduled for October 2020.

For the fiscal year, KUB stayed on track with its overall Century II capital budget and production goals. The electric system replaced 1,962 poles and 15.1 miles of transmission lines. In the natural gas system, 8.3 miles of gas steel main were replaced. In the water system, 8.1 miles of galvanized water main and 5.7 miles of cast iron water main were replaced. In the wastewater system, 24.2 miles of main were rehabilitated or replaced.

Consent Decree

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB's wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB's wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases, which were effective October 2014, October 2015, and October 2016, and three 5 percent rate increases, which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

Financial Highlights

Fiscal Year 2020 Compared to Fiscal Year 2019

KUB's consolidated Change in Net Position increased $78 million in fiscal year 2020. Comparatively, net position increased by $65.3 million in fiscal year 2019.

Operating revenue decreased $11.6 million, the net result of additional revenues from system rate increases and a decline in billed sales volumes. Purchased energy expense (power and natural gas) decreased $26.3 million or 5.7 percent, the combined effect of a $19.8 million decrease in purchased power cost and a decrease of $6.6 million in purchased gas cost, reflecting lower customer demand. Margin from sales (operating revenue less purchased energy expense) increased $14.7 million or 4.2 percent compared with the prior fiscal year.

Operating expenses (excluding purchased power and purchased gas expense) decreased $0.8 million. Operating and maintenance (O&M) expenses were $1.5 million higher than the previous year. Depreciation expense decreased $1.9 million or 2.5 percent. Taxes and tax equivalents decreased $0.4 million or 1.2 percent.

Interest income was $1.9 million less than the prior fiscal year. Interest expense decreased $0.5 million or 1.1 percent, reflecting the net impact of interest expense from new revenue bonds sold during fiscal year 2020 and savings on refunding of outstanding bonds.

Capital contributions decreased $0.7 million, the result of a lower level of assets contributed by developers.

Total plant assets (net) increased $115.6 million or 5.7 percent over the last fiscal year.

Long-term debt represented 48.3 percent of KUB's consolidated capital structure, compared to 50.2 percent last fiscal year. Capital structure equals long-term debt (including the current and long-term portion of revenue bonds), plus net position.

Fiscal Year 2019 Compared to Fiscal Year 2018

KUB's consolidated Change in Net Position increased $65.3 million in fiscal year 2019. Comparatively, net position increased by $63.6 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for Other Post-Employment Benefits (OPEB), increased the total net position by an additional $4.5 million. The change resulted in a total increase of $68.1 million in KUB's net position.

Operating revenue decreased $0.2 million, the net result of additional revenues from system rate increases and a decline in billed sales volumes. Purchased energy expense (power and natural gas) decreased $14.5 million or 3 percent, the combined effect of an $8.1 million decrease in purchased power cost and a decrease of $6.4 million in purchased gas cost, reflecting lower customer demand. Margin from sales (operating revenue less purchased energy expense) increased $14.3 million or 4.2 percent compared with the prior fiscal year.

Operating expenses (excluding purchased power and purchased gas expense) increased $16.1 million. Operating and maintenance (O&M) expenses were $17.2 million or 13.9 percent higher than the previous year. Depreciation expense decreased $2.9 million or 3.8 percent. Taxes and tax equivalents increased $1.8 million or 5.2 percent, reflecting higher plant in service levels.

Interest income was $2.6 million more than the prior fiscal year. Interest expense increased $1.6 million or 3.9 percent, reflecting the interest costs on new revenue bonds issued during fiscal year 2019 to fund system capital improvements.

Capital contributions increased $0.6 million, the result of a higher level of assets contributed by developers.

Total plant assets (net) increased $122.2 million or 6.4 percent over the last fiscal year.

Long-term debt represented 50.2 percent of KUB's consolidated capital structure, compared to 50.8 percent last fiscal year. Capital structure equals long-term debt (including the current and long-term portion of revenue bonds), plus net position.

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Knoxville Utilities Board Consolidated Financial Statements

KUB's financial performance is reported under three basic consolidated financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows.

Statement of Net Position

KUB reports its assets, deferred outflows of resources, liabilities, deferred inflows of resources and net position in the Statement of Net Position. Assets are classified as current, restricted, plant in service, or other assets.

Liabilities are classified as current, other, or long-term debt. Net position is classified as net investment in capital assets, restricted, or unrestricted. Net position tells the user what KUB has done with its accumulated earnings, not just the balance.

Net investment in capital assets reflects the book value of all capital assets less the outstanding balances of debt used to acquire, construct, or improve those assets.

Restricted net position includes assets that have been limited to specific uses by KUB's bond covenants or through resolutions passed by the KUB Board.

Unrestricted net position is a residual classification; the amount remaining after reporting net position as either invested in capital or restricted is reported there.

Statement of Revenues, Expenses and Changes in Net Position

KUB reports its revenues and expenses (both operating and non-operating) on the Statement of Revenues, Expenses and Changes in Net Position. In addition, any capital contributions or assets donated by developers are reported on this statement.

Total revenue less total expense equals the change in net position for the reporting period. Net position at the beginning of the period is increased or decreased, as applicable, by the change in net position for the reporting period.

The change in net position for the reporting period is added to the net position segment of the Statement of Net Position.

Statement of Cash Flows

KUB reports cash flows from operating activities, capital and related financing activities, and investing activities on the Statement of Cash Flows. This statement tells the user the sources and uses of cash during the reporting period.

The statement indicates the beginning cash balance and ending cash balance and how it was either increased or decreased during the reporting period.

The statement also reconciles cash flow to operating income as it appears on the Statement of Revenues, Expenses and Changes in Net Position.

Condensed Financial Statements

Statement of Net Position

The following table reflects the condensed consolidated Statement of Net Position for KUB compared to the prior two fiscal years.

Statements of Net Position
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Current, restricted and other assets	$ 395,224	$ 389,851	$ 424,562
Capital assets, net	2,135,780	2,020,169	1,897,995
Deferred outflows of resources	33,237	41,209	25,544
Total assets and deferred outflows of resources	2,564,241	2,451,229	2,348,101
Current and other liabilities	207,464	180,241	169,966
Long-term debt outstanding	1,126,089	1,135,027	1,097,096
Deferred inflows of resources	20,569	3,843	14,259
Total liabilities and deferred inflows of resources	1,354,122	1,319,111	1,281,321
Net position			
Net investment in capital assets	990,228	871,180	794,383
Restricted	22,186	21,294	19,436
Unrestricted	197,705	239,644	252,961
Total net position	$ 1,210,119	$ 1,132,118	$ 1,066,780

Normal Impacts on Statement of Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Net Position presentation:

- Change in net position (from Statement of Revenues, Expenses and Changes in Net Position): impacts (increase/decrease) current and other assets and/or capital assets and unrestricted net position.
- Issuing debt for capital: increases deferred outflows of resources and long-term debt.
- Spending debt proceeds on new capital: reduces current assets and increases capital assets.
- Spending of non-debt related current assets on new capital: (a) reduces current assets and increases capital assets and (b) reduces unrestricted net position and increases net investment in capital assets.
- Principal payment on debt: (a) reduces current and other assets and reduces long-term debt and (b) reduces unrestricted net position and increases net investment in capital assets.
- Reduction of capital assets through depreciation: reduces capital assets and net investment in capital assets.

Impacts and Analysis

Current, Restricted and Other Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Current, restricted and other assets increased $5.4 million or 1.4 percent. This increase reflects an increase in the actuarially determined net pension asset of $19.1 million offset by a $7.1 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments), and a $6.8 million decrease in inventories. KUB under recovered $1.5 million in wholesale gas costs from its customers in fiscal year 2020. This under recovery of costs will be charged to KUB's gas customers during the next fiscal year through adjustments to rates via the Purchased Gas Adjustment.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current, restricted and other assets decreased $34.7 million or 8.2 percent. This decrease reflects a decrease in the actuarially determined net pension asset of $19.8 million, an $11.6 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments), and a decrease in accounts receivable of $5.4 million. KUB under recovered $1.3 million in wholesale gas costs from its customers in fiscal year 2019. This under recovery of costs will be charged to KUB's gas customers during the next fiscal year through adjustments to rates via the Purchased Gas Adjustment.

Capital Assets

Fiscal Year 2020 Compared to Fiscal Year 2019

Capital assets (net) increased $115.6 million or 5.7 percent. Major capital expenditures (reflected in both plant additions and work in progress) in fiscal year 2020 included $46 million related to wastewater Century II projects, $24.1 million for various electric distribution system improvements, $11.4 million for building improvements, $10.5 million for Grid Modernization and advanced metering including Supervisory Control and Data Acquisition (SCADA) system upgrades, $9.6 million for water main replacements, $9.3 million for the construction of gas mains, and $7.3 million for pole replacements for the electric system.

Fiscal Year 2019 Compared to Fiscal Year 2018

Capital assets (net) increased $122.2 million or 6.4 percent. Major capital expenditures (reflected in both plant additions and work in progress) in fiscal year 2019 included $42.9 million related to wastewater Century II projects, $29.5 million for various electric distribution system improvements, $16.8 million for building improvements, $14.1 million for Grid Modernization and advanced metering including Supervisory Control and Data Acquisition (SCADA) system upgrades, $11.3 million for water plant and system improvements, $10.3 million for pole replacements for the electric system, and $8.3 million for utility asset replacements and relocations for the gas and water system to accommodate Tennessee Department of Transportation (TDOT) highway improvement projects.

Deferred Outflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred outflows of resources decreased $8 million compared to the prior year, reflecting a decrease in pension outflow of $9.1 million and a $0.5 million decrease in unamortized bonds refunding costs offset by a $1.7 million increase in OPEB outflow when compared to the prior fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred outflows of resources increased $15.7 million compared to the prior year, reflecting an increase in pension outflow of $15.3 million and a $1.8 million increase in OPEB outflow offset by a $1.5 million decrease in unamortized bonds refunding costs when compared to the prior fiscal year.

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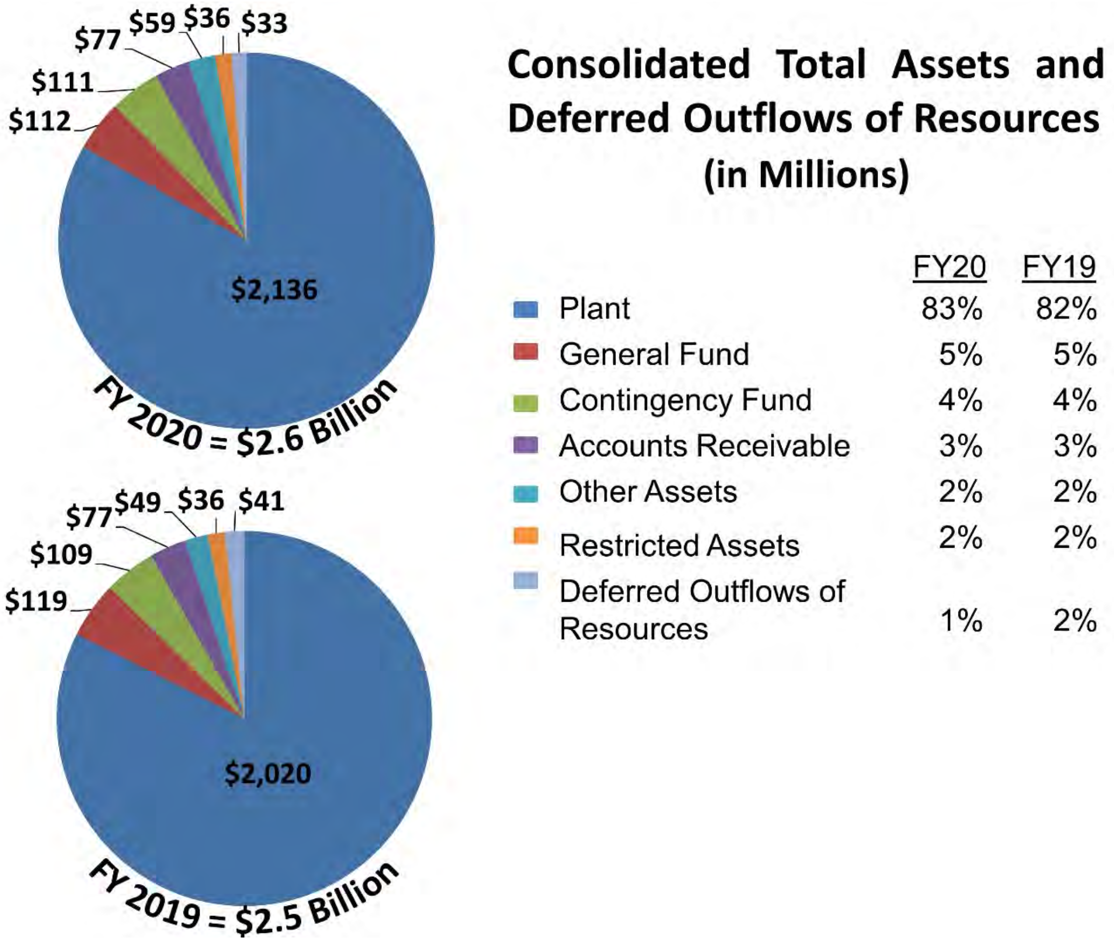

Current and Other Liabilities

Fiscal Year 2020 Compared to Fiscal Year 2019

Current and other liabilities increased $27.2 million or 15.1 percent compared to the prior fiscal year. This reflects an increase of $22.9 million in accounts payable, an increase of $6.1 million in net OPEB liability, an increase in the current portion of revenue bonds of $3.2 million, and an increase of $1.5 million in customer advances for construction offset by a decrease of $6.9 million in net pension liability. KUB over recovered $1.8 million in wholesale power costs from its customers in fiscal year 2020, as compared to a $2.7 million over recovery in fiscal year 2019. This over recovery of costs will be flowed back to KUB's electric customers during the next fiscal year through adjustments to rates via the Purchased Power Adjustment.

The outstanding balance on TVA conservation loans declined by $1.1 million, as KUB ceased issuance of any new loans in fiscal year 2016.

Fiscal Year 2019 Compared to Fiscal Year 2018

Current and other liabilities increased $10.3 million or 6 percent compared to the prior fiscal year. This reflects an increase of $6.6 million in net pension liability, an increase of $3.2 million in customer advances for construction, and an increase in the current portion of revenue bonds of $3.1 million. KUB over recovered $2.7 million in wholesale power costs from its customers in fiscal year 2019, as compared to a $4.7 million over recovery in fiscal year 2018. This over recovery of costs will be flowed back to KUB's electric customers during the next fiscal year through adjustments to rates via the Purchased Power Adjustment.

The outstanding balance on TVA conservation loans declined by $1.3 million, as KUB ceased issuance of any new loans in fiscal year 2016.

Long-term Debt

Fiscal Year 2020 Compared to Fiscal Year 2019

Long-term debt decreased $8.9 million or 0.8 percent. Revenue bonds totaling $36 million were sold for the water and wastewater system in July 2019 and $68.9 million of revenue refunding bonds were sold in April 2020, which were offset by the refunded bonds and the scheduled repayment of debt. During the fiscal year, $42.6 million of bond debt was repaid, which included a $2 million gas system cash contribution to help retire existing debt, and principal payments from the July 2019 revenue bond issuance.

Fiscal Year 2019 Compared to Fiscal Year 2018

Long-term debt increased $37.9 million or 3.5 percent. Revenue bonds totaling $80 million were sold in August 2018 and were offset by the scheduled repayment of debt. During the fiscal year, $37.9 million of bond debt was repaid, which included principal payments from the August 2018 revenue bond issuance.

Deferred Inflows of Resources

Fiscal Year 2020 Compared to Fiscal Year 2019

Deferred inflows increased $16.7 million compared to the prior fiscal year due to differences in pension inflows.

Fiscal Year 2019 Compared to Fiscal Year 2018

Deferred inflows decreased $10.4 million compared to the prior fiscal year due to differences in pension inflows.

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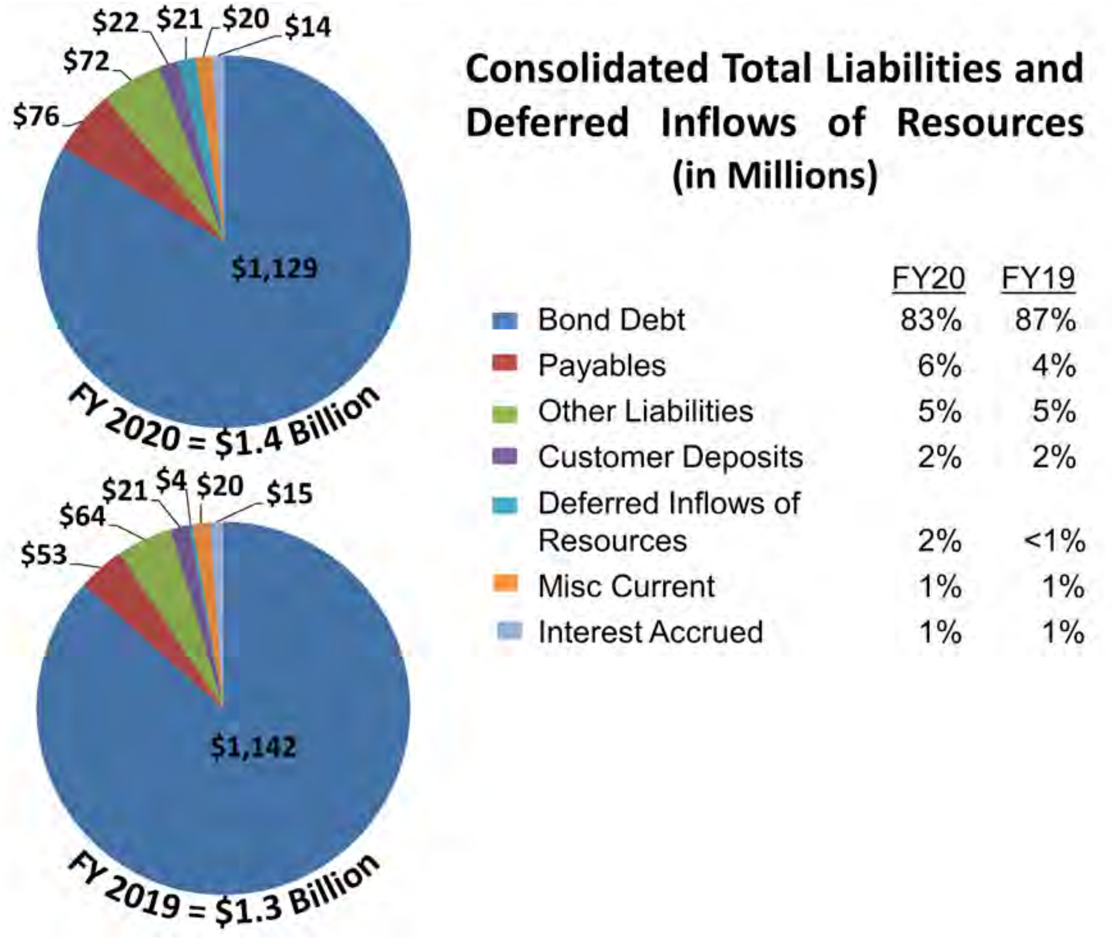

Consolidated Total Liabilities and Deferred Inflows of Resources (in Millions)

	FY20	FY19
Bond Debt	83%	87%
Payables	6%	4%
Other Liabilities	5%	5%
Customer Deposits	2%	2%
Deferred Inflows of Resources	2%	<1%
Misc Current	1%	1%
Interest Accrued	1%	1%

Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

Unrestricted net position decreased $41.9 million or 17.5 percent compared to the previous fiscal year, partially due to a $7.1 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments), a $6.8 million decrease in inventories, along with an increase of $22.9 million in accounts payable, and an increase of $6.1 million in net OPEB liability. Net investment in capital assets increased $119 million or 13.7 percent, the result of net capital assets increasing $115.6 million and a $5.8 million decrease in current portion of revenue bonds and total long-term debt. Restricted net position increased $0.9 million compared to the prior year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Unrestricted net position decreased $13.3 million or 5.3 percent compared to the previous fiscal year, partially due to an $11.6 million decrease in general fund cash (including cash and cash equivalents, short-term investments, and long-term investments). Net investment in capital assets increased $76.8 million or 9.7 percent, the result of net capital assets increasing $122.2 million and a $41.1 million increase in current portion of revenue bonds and total long-term debt. Restricted net position increased $1.9 million compared to the prior year.

Statement of Revenues, Expenses and Changes in Net Position

The following table reflects the condensed consolidated Statement of Revenues, Expenses and Changes in Net Position for KUB compared to the prior two fiscal years.

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended June 30

(in thousands of dollars)	2020	2019	2018
Operating revenues	$ 803,751	$ 815,390	$ 815,544
Less: Purchased energy expense	436,236	462,564	477,038
Margin from sales	367,515	352,826	338,506
Operating expenses			
Treatment	16,306	16,355	15,951
Distribution and collection	70,822	66,590	63,868
Customer service	14,007	15,710	13,327
Administrative and general	41,668	42,601	30,891
Depreciation	72,826	74,730	77,666
Taxes and tax equivalents	35,863	36,310	34,504
Total operating expenses	251,492	252,296	236,207
Operating income	116,023	100,530	102,299
Interest income	4,740	6,626	4,063
Interest expense	(43,127)	(43,590)	(41,962)
Other income/(expense)	(52)	668	(1,296)
Change in net position before capital contributions	77,584	64,234	63,104
Capital contributions	417	1,104	467
Change in net position	$ 78,001	$ 65,338	$ 63,571

Normal Impacts on Statement of Revenues, Expenses and Changes in Net Position

The following is a description of activities which will normally impact the comparability of the Statement of Revenues, Expenses and Changes in Net Position presentation:

- Operating revenue is largely determined by volume of sales for the fiscal year. Any change (increase/decrease) in retail rates would also be a cause of change in operating revenue.

- Purchased energy expense is determined by volume of power purchases from TVA and volume of natural gas purchases for the fiscal year. Also, any change (increase/decrease) in wholesale power and/or gas rates would result in a change in purchased energy expense.

- Operating expenses (distribution, customer service, administrative and general) are normally impacted by changes in areas including, but not limited to, labor cost (staffing, wage rates), active employee and retiree medical expenses, and system maintenance.

- Depreciation expense is impacted by plant additions and retirements during the fiscal year.

- Taxes and equivalents are impacted by plant additions/retirements, changes in property tax rates, and gross margin levels.

- Interest income is impacted by level of interest rates and investments.

- Interest expense on debt is impacted by level of outstanding debt and the interest rate(s) on the outstanding debt.

- Other income/(expense) is impacted by miscellaneous non-operating revenues and expenses.

- Capital contributions are impacted by a donation of facilities/infrastructure to KUB by developers and governmental agencies. The contributions are recognized as revenue and recorded as plant in service based on the fair market value of the asset(s).

Impacts and Analysis

Change in Net Position

Fiscal Year 2020 Compared to Fiscal Year 2019

KUB's consolidated Change in Net Position increased $78 million in fiscal year 2020. Comparatively, net position increased $65.3 million in fiscal year 2019.

Fiscal Year 2019 Compared to Fiscal Year 2018

KUB's consolidated Change in Net Position increased $65.3 million in fiscal year 2019. Comparatively, net position increased $63.6 million in fiscal year 2018. A restatement to the fiscal year 2018 beginning net position, based on a change in method of accounting for OPEB, increased the total net position by an additional $4.5 million. The change resulted in a total increase of $68.1 million in KUB's net position.

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Margin from Sales

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating revenue was $11.6 million lower than the previous fiscal year. Both electric and natural gas sales were impacted by a milder winter than the previous fiscal year. Electric Division operating revenue decreased $12.7 million due to the net result of additional revenue from KUB's 1 percent electric rate increase effective October 2019, a 2.3 percent decrease in sales volumes, and the flow through of prior year over recovered purchased power costs to electric customers. Gas Division revenue decreased $6 million for the fiscal year, the net result of a 3.2 percent decrease in billed sales and additional revenue generated from the 2 percent gas rate increase effective October 2019. Water Division revenue increased $4.3 million, the net result of additional revenue from the 6.5 percent water rate increase effective July 2019 and a 1.2 percent decline in billed water sales volumes. Wastewater Division revenue was $2.7 million higher than the previous year due to additional revenue from the 5 percent wastewater rate increase effective July 2019 offset by a 3.3 percent decrease in billable wastewater volumes.

Wholesale energy expense decreased $26.3 million or 5.7 percent. Purchased power expense decreased $19.8 million compared to last year, reflecting lower customer demand and flow through of lower wholesale power costs. Purchased gas expense was $6.6 million lower, reflecting lower customer demand for the fiscal year and lower natural gas prices.

Margin from sales (operating revenue less purchased energy expense) increased $14.7 million compared to the previous year. The increase reflects additional revenue from the electric, natural gas, water, and wastewater rate increases.

Fiscal Year 2019 Compared to Fiscal Year 2018

Operating revenue was $0.2 million lower than the previous fiscal year. Both electric and natural gas sales were impacted by a milder winter than the previous fiscal year. Electric Division operating revenue decreased $1.7 million due to the net result of additional revenue from KUB's electric rate increase, lower sales volumes, and the flow through of prior year over recovered purchased power costs to electric customers. Gas Division revenue decreased $6 million for the fiscal year, the net result of a 5.6 percent decrease in billed sales and additional revenue generated from the October 2018 gas rate increase. Water Division revenue increased $3.7 million, the net result of additional revenue from the July 2018 water rate increase and a 1.1 percent decline in billed water sales volumes. Wastewater Division revenue was $3.8 million higher than the previous year due to additional revenue from the July 2018 wastewater rate increase offset by a one percent decrease in billable wastewater volumes.

Wholesale energy expense decreased $14.5 million or 3 percent. Purchased power expense decreased $8.1 million compared to last year, reflecting lower customer demand. Purchased gas expense was $6.4 million lower, reflecting lower customer demand for the fiscal year.

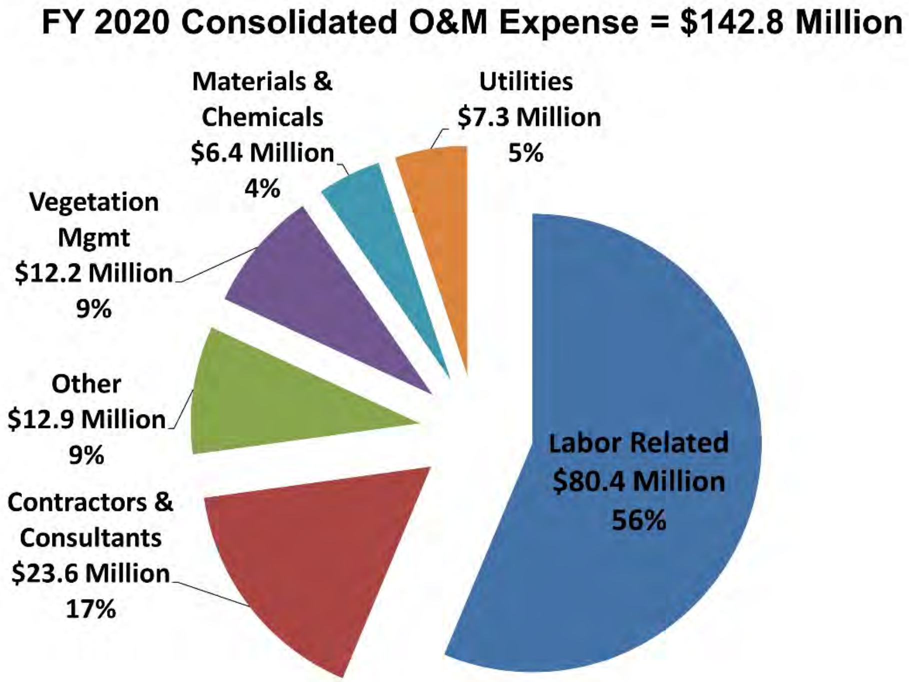
Margin from sales (operating revenue less purchased energy expense) increased $14.3 million compared to the previous year. The increase reflects additional revenue from the electric, natural gas, water, and wastewater rate increases.

Operating Expenses

Fiscal Year 2020 Compared to Fiscal Year 2019

Operating expenses (excluding wholesale purchased energy expense) decreased $0.8 million compared to fiscal year 2019. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution and collection, customer service, and administrative and general.

- Treatment expenses were consistent with the prior year.
- Distribution and collection expenses increased $4.2 million or 6.4 percent, primarily due to vegetation management costs.
- Customer service expenses decreased $1.7 million, primary due to lower expenses associated with meter reading contractors and technology consultants.
- Administrative and general expenses decreased $0.9 million, primarily due to a decrease in insurance costs.



- Depreciation expense decreased $1.9 million or 2.5 percent. KUB added $135.4 million in assets during fiscal year 2019. A full year of depreciation expense was recorded on these capital investments and a partial year of depreciation expense was incurred on $161.1 million in assets placed in service during fiscal year 2020. In addition, $46.8 million of assets were retired during fiscal year 2020.
- Taxes and tax equivalents decreased $0.4 million or 1.2 percent. Tax equivalent payments to taxing jurisdictions in which KUB's utility systems are located are based on a combination of net plant values and margin from energy sales.

Fiscal Year 2019 Compared to Fiscal Year 2018

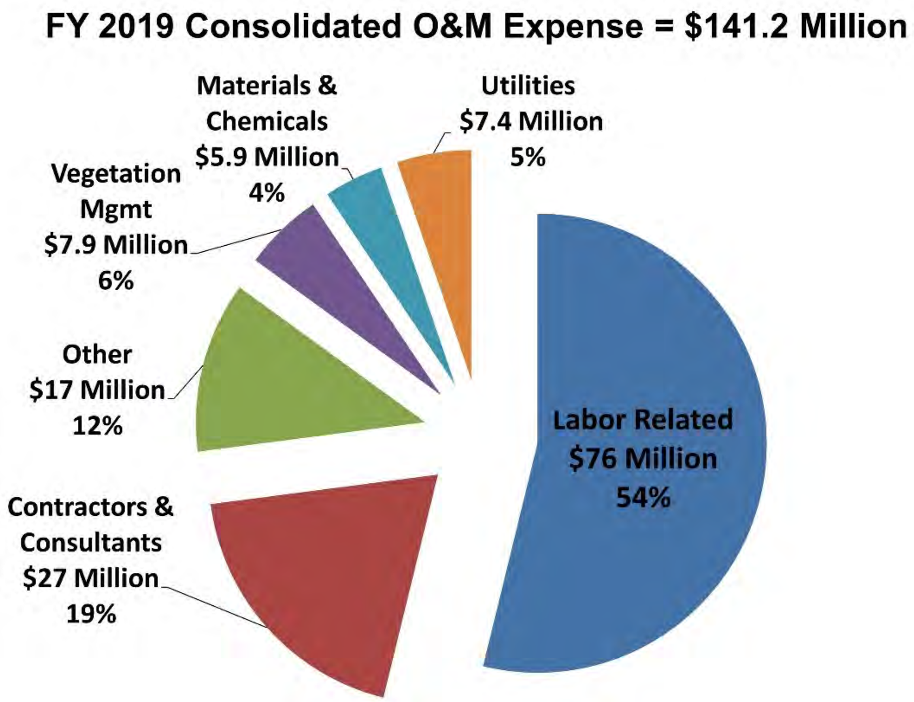
Operating expenses (excluding wholesale purchased energy expense) increased $16.1 million compared to fiscal year 2018. Operating expenses include operations and maintenance (O&M) expense, depreciation, and taxes/tax equivalents. O&M expenses can be further classified as treatment, distribution and collection, customer service, and administrative and general.

- Treatment expenses were $0.4 million higher than the prior year, reflecting higher outside contractor and consultant expenses for the wastewater system offset by lower outside contractor costs and labor related expenses for the water system.

- Distribution and collection expenses increased $2.7 million or 4.3 percent, primarily due to higher utility system contractors, electric line contractors, and higher labor related expenses.

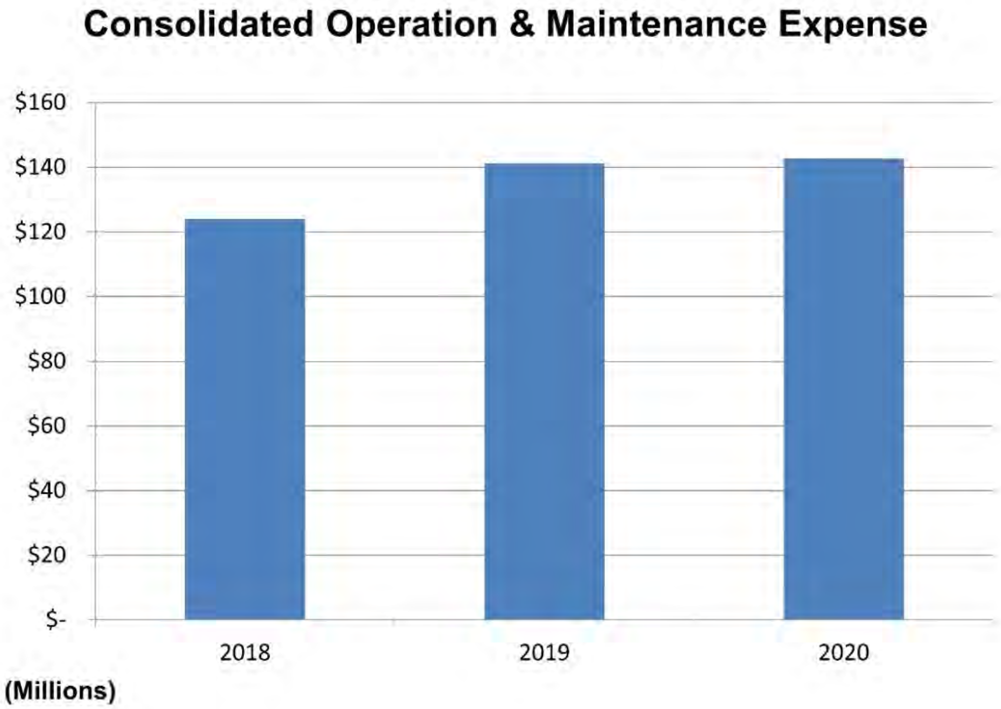
- Customer service expenses increased $2.4 million, primary due to higher expenses associated with meter reading contractors and technology consultants.

- Administrative and general expenses increased $11.7 million, primarily due to an increase in labor related expenses including higher pension expenses, reflecting impact of investment losses on Pension Trust assets in 2018.



- Depreciation expense decreased $2.9 million or 3.8 percent, primarily due to the sale of streetlight assets to the City of Knoxville in 2018 and full depreciation of key information technology systems. KUB added $145.3 million in assets during fiscal year 2018. A full year of depreciation expense was recorded on these capital investments and a partial year of depreciation expense was incurred on $135.4 million in assets placed in service during fiscal year 2019.

- Taxes and tax equivalents increased $1.8 million or 5.2 percent due to increased plant in service levels. Tax equivalent payments to taxing jurisdictions in which KUB's utility systems are located are based on a combination of net plant values and margin from energy sales.



Other Income and Expense

Fiscal Year 2020 Compared to Fiscal Year 2019

Interest income decreased $1.9 million compared to the prior fiscal year, reflecting lower short-term interest rates over the prior fiscal year.

Interest expense decreased $0.5 million or 1.1 percent, reflecting the net impact of interest expense from new revenue bonds sold during the fiscal year and savings on refunding of outstanding bonds.

Other income (net) decreased $0.7 million, primarily due to mark-to-market adjustments on investments.

Capital contributions by developers were $0.7 million lower due to a decrease in donated utility assets compared to the prior fiscal year.

Fiscal Year 2019 Compared to Fiscal Year 2018

Interest income increased $2.6 million compared to the prior fiscal year, reflecting increases in short-term interest rates over the prior fiscal year.

Interest expense increased $1.6 million or 3.9 percent, reflecting the impact of interest expense from new revenue bonds sold during the fiscal year.

Other income (net) increased $2 million, primarily due to mark-to-market adjustments on investments.

Capital contributions by developers were $0.6 million higher due to increased donated utility assets compared to the prior fiscal year.

Capital Assets

Capital Assets
As of June 30
(Net of Depreciation)

(in thousands of dollars)		**2020**		**2019**		**2018**
Production Plant (Intakes)	$	7	$	7	$	57
Pumping and Treatment Plant		216,136		209,281		204,756
Distribution and Collection Plant						
Mains and metering	$	865,744	$	837,277	$	825,318
Services and meters		168,800		152,554		129,275
Electric station equipment		57,564		52,974		54,695
Poles, towers and fixtures		140,424		137,804		127,343
Overhead conductors		110,865		108,965		99,761
Line transformers		61,725		61,784		61,446
Other accounts		191,009		187,759		185,945
Total Distribution & Collection Plant	$	1,596,131	$	1,539,117	$	1,483,783
General Plant		75,934		54,690		55,713
Total Plant Assets	$	1,888,208	$	1,803,095	$	1,744,309
Work In Progress		247,572		217,074		153,686
Total Net Plant	$	2,135,780	$	2,020,169	$	1,897,995

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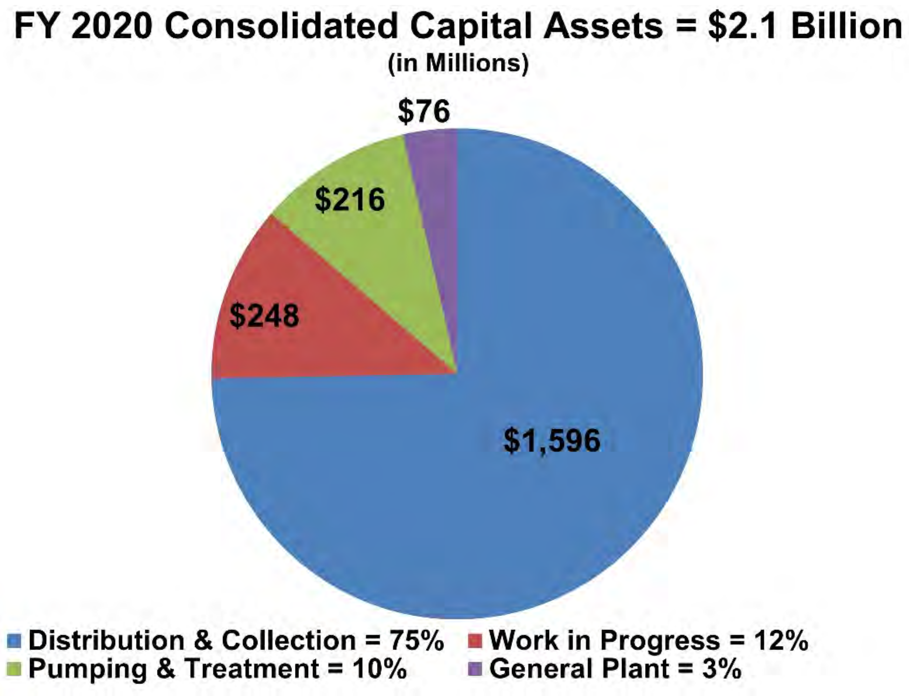
Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, KUB had $2.1 billion invested in capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $115.6 million or 5.7 percent over the end of the last fiscal year.

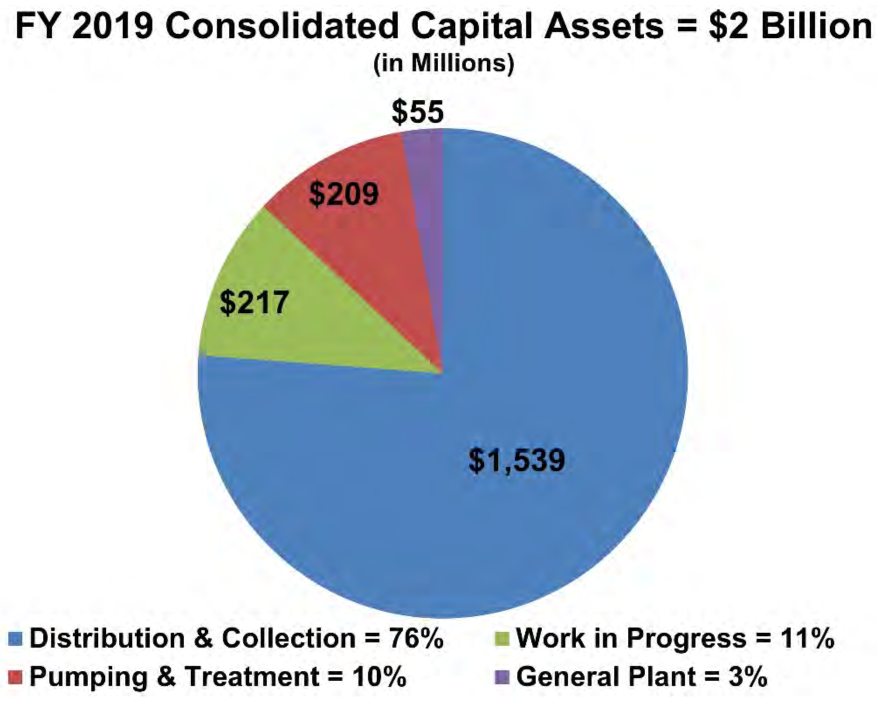


Major capital asset additions during the year were as follows:

- $46 million related to wastewater Century II projects
- $20.2 million for wastewater treatment plant upgrades
- $9.1 million for sewer mini-basin rehabilitation and replacement
- $5.2 million for rehabilitation projects
- $3.9 million for pump station construction and improvements
- $3.9 million for short line projects
- $3.7 million for sewer trunk line rehabilitation and replacement
- $24.1 million for various electric distribution system improvements
- $11.4 million for building improvements including a new Engineering Building
- $10.5 million for Grid Modernization and advanced metering, including SCADA system upgrades, for the electric, gas and water systems
- $9.6 million for water main replacements
- $9.3 million for the construction of gas mains
- $7.3 million for pole replacements for the electric system

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, KUB had $2 billion invested in capital assets, as reflected in the schedule of capital assets, which represents a net increase (including additions, retirements, and depreciation) of $122.2 million or 6.4 percent over the end of the last fiscal year.



Major capital asset additions during the year were as follows:

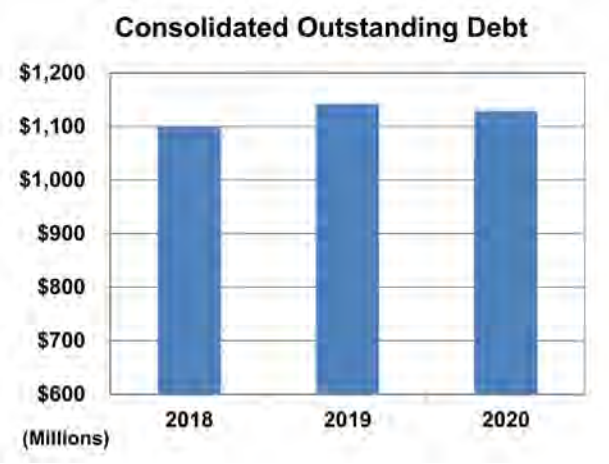
- $42.9 million related to wastewater Century II projects
- $19.1 million for wastewater treatment plant upgrades
- $8.6 million for sewer mini-basin rehabilitation and replacement
- $5.2 million for pump station construction and improvements
- $4.1 million for sewer trunk line rehabilitation and replacement
- $3.1 million for rehabilitation projects
- $2.8 million for short line projects
- $29.5 million for various electric distribution system improvements
- $16.8 million for building improvements
- $14.1 million for Grid Modernization and advanced metering, including SCADA system upgrades, for the electric, gas and water systems
- $11.3 million for water plant and system improvements
- $10.3 million for pole replacements for the electric system
- $8.3 million for replacement and relocation of utility assets for the gas and water system to accommodate TDOT highway improvement projects

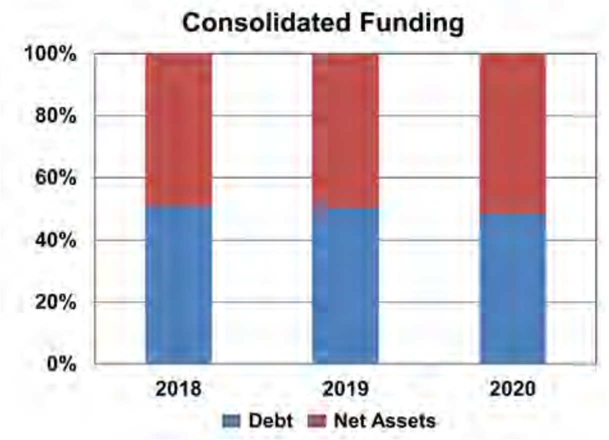
Debt Administration

KUB's outstanding debt was $1.13 billion at June 30, 2020. Debt as a percentage of capital structure was 48.3 percent in 2020, 50.2 percent in 2019, and 50.8 percent at the end of fiscal year 2018.

Outstanding Debt
As of June 30

(in thousands of dollars)	**2020**	**2019**	**2018**
Revenue bonds	$ 1,128,795	$ 1,141,925	$ 1,099,795
Total outstanding debt	$ 1,128,795	$ 1,141,925	$ 1,099,795





KUB will pay $471.7 million in principal payments over the next ten years, representing 42 percent of outstanding bonds.

Fiscal Year 2020 Compared to Fiscal Year 2019

As of June 30, 2020, KUB had $1.13 billion in outstanding debt (including the current portion of revenue bonds) compared to $1.14 billion last year, a decrease of $13.1 million. The decrease is attributable to new revenue and refunding bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2020, KUB's weighted average cost of debt was 3.65 percent (3.55 percent including the impact of Build America Bonds rebates).

KUB sold $14.4 million in electric system revenue refunding bonds in April 2020 for the purpose of refinancing existing electric system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $2.4 million over the life of the bonds ($2.2 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 1.50 percent. The bonds mature over a period of 10 years with a final maturity in fiscal year 2031.

KUB sold $6.8 million in gas system revenue refunding bonds in April 2020 for the purpose of refinancing existing gas system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $1.8 million over the life of the bonds ($1.3 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 1.60 percent. The bonds mature over a period of 10 years with a final maturity in fiscal year 2030.

KUB sold $20 million in water system revenue bonds in July 2019 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.79 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2049.

KUB sold $19.5 million in water system revenue refunding bonds in April 2020 for the purpose of refinancing existing water system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $3.9 million over the life of the bonds ($3.1 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.55 percent. The bonds mature over a period of 20 years with a final maturity in fiscal year 2040.

KUB sold $16 million in wastewater system revenue bonds in July 2019 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.79 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2049.

KUB sold $28.2 million in wastewater system revenue refunding bonds in April 2020 for the purpose of refinancing existing wastewater system revenue bonds at lower interest rates. KUB will realize a total debt service savings of $18.9 million over the life of the bonds ($8.8 million on a net present value basis). The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.66 percent. The bonds mature over a period of 25 years with a final maturity in fiscal year 2045.

KUB's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. As of June 30, 2020, Standard & Poor's rated the revenue bonds of the Water Division AAA, the Wastewater Division AA+, and the revenue bonds of the Electric Division and the Gas Division AA. Moody's Investors Service rated the bonds of the Water Division Aa1 and the Electric, Gas, and Wastewater Divisions Aa2.

Fiscal Year 2019 Compared to Fiscal Year 2018

As of June 30, 2019, KUB had $1.14 billion in outstanding debt (including the current portion of revenue bonds) compared to $1.1 billion last year, an increase of $42.1 million. The increase is attributable to new revenue bonds issued during the fiscal year offset by the scheduled repayment of debt. As of June 30, 2019, KUB's weighted average cost of debt was 3.79 percent (3.59 percent including the impact of Build America Bonds rebates).

KUB sold $40 million in electric system revenue bonds in August 2018 for the purpose of funding electric system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.42 percent.

KUB sold $8 million in gas system revenue bonds in August 2018 for the purpose of funding gas system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

KUB sold $20 million in water system revenue bonds in August 2018 for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.46 percent.

KUB sold $12 million in wastewater system revenue bonds in August 2018 for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 3.49 percent.

KUB's outstanding debt is rated by Standard & Poor's and Moody's Investors Service. In May 2019, KUB received a change in its long-term rating from Standard & Poor's on the electric system. The reduction from

'AA+' to 'AA' reflects a change in methodology in how Standard & Poor's calculates fixed-charge coverage by including the utility's demand component of its purchased power bill to cover its portion of the Tennessee Valley Authority's (TVA) fixed costs, including debt service associated with generating plants. KUB's reduction is consistent with that of other TVA distributors due to the same change in methodology. As of June 30, 2019, Standard & Poor's rated the revenue bonds of the Water Division AAA, the Wastewater Division AA+, and the revenue bonds of the Electric Division and the Gas Division AA. Moody's Investors Service rated the bonds of the Water Division Aa1 and the Electric, Gas, and Wastewater Divisions Aa2.

Impacts on Future Financial Position

KUB anticipates a net increase of 3,730 customers during fiscal year 2021.

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). While the disruption is currently expected to be temporary, there is uncertainty around its duration and the ultimate future impact, if any, on results of operations, financial position, liquidity or capital resources. In response to the COVID-19 pandemic, the Water Division chose to forego a proposed 5% rate increase and the Wastewater Division chose to forego a proposed 2.25% rate increase for fiscal year 2021 to reduce financial impact on its customers.

In March 2020, KUB executed a new Long-Term Partnership Agreement with TVA, extending the term of its five-year evergreen power supply contract with TVA to a 20-year evergreen contract. In return for signing the longer-term agreement with TVA, KUB will receive an annual partnership credit of 3.1% on TVA's wholesale base rates, estimated to be around $9.5 million per year. Among other things, the new partnership agreement also provides KUB with the flexibility to self-generate up to five percent of its annual power supply through renewable sources.

KUB will be using a portion of the annual partnership credit, around $800,000 annually, to purchase 212MW of solar power to meet the needs of its electric system customers through TVA's Green Invest Program. This first of its kind agreement in the TVA region will provide 465 million kilowatt-hours of solar output and represent about eight percent of KUB's electric system load. The solar developments providing the 212MW of solar energy are due to be completed in fiscal year 2022.

KUB expects to receive reimbursements in fiscal year 2021 from the Federal Emergency Management Agency (FEMA) to partially offset the cost of the 2019 storm and flood event.

KUB sold $9 million in water system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding water system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.36 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2050.

KUB sold $27.5 million in wastewater system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding wastewater system capital improvements. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.41 percent. The bonds mature over a period of 30 years with a final maturity in fiscal year 2050.

Ratings by Standard & Poor's and Moody's Investors Service were reaffirmed for the water and wastewater systems as part of the issuance process for the aforementioned bonds.

KUB long-term debt includes $59.9 million of Build America Bond (BABs). The BABs were sold on a taxable basis with the United States Treasury providing a rebate to KUB for a percentage of the interest cost. The interest rebates were subject to federal sequestration during the fiscal year and were reduced by 5.9 percent. Any future actions by Congress may also affect the anticipated rebates for future fiscal years.

The Pension Plan actuarial valuation for the Plan year beginning January 1, 2019 resulted in an actuarially determined contribution of $3,167,680 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. Subsequent to June 30, 2020, the actuarial valuation for the Plan year beginning January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $3,665,168 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. For the Plan year beginning January 1, 2020, the Plan's actuarial funded ratio is 101.61 percent.

The OPEB Plan actuarial valuation as of January 1, 2019 resulted in an actuarially determined contribution of $757,226 for the fiscal year ending June 30, 2021, based on the Plan's current funding policy. Subsequent to June 30, 2020, the actuarial valuation as of January 1, 2020 was completed. The actuarial valuation resulted in an actuarially determined contribution of $489,066 for the fiscal year ending June 30, 2022, based on the Plan's current funding policy. The Plan's actuarial funded ratio is 97.68 percent.

GASB Statement No. 84, *Fiduciary Activities*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 87, *Leases*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period,* is effective for fiscal years beginning after December 15, 2020. GASB Statement No. 90, *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61*, is effective for fiscal years beginning after December 15, 2019. GASB Statement No. 91, *Conduit Debt Obligations*, is effective for fiscal years beginning after December 15, 2021. GASB Statement No. 92, *Omnibus 2020*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 93, *Replacement of Interbank Offered Rates*, is effective for fiscal years beginning after June 15, 2021. GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*, is effective for fiscal years beginning after June 15, 2022. GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*, is effective for fiscal years beginning after June 15, 2021. KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

No other facts, decisions, or conditions are currently known which would have a significant impact on KUB's financial position or results of operations during fiscal year 2020.

Financial Contact

KUB's financial statements are designed to present users (citizens, customers, investors, and creditors) with a general overview of KUB's financial position and results of operations for the fiscal years ended June 30, 2020 and 2019. If you have questions about the statements or need additional financial information, contact KUB's Chief Financial Officer at 445 South Gay Street, Knoxville, Tennessee 37902.

Knoxville Utilities Board
Consolidated Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Current assets:		
Cash and cash equivalents	$ 99,445,520	$ 91,639,940
Short-term investments	12,578,300	27,471,225
Short-term contingency fund investments	94,270,579	79,038,925
Other current assets	1,801,954	1,405,053
Accrued interest receivable	49,263	159,019
Accounts receivable, less allowance of uncollectible accounts of $594,422 in 2020 and $589,889 in 2019	76,694,933	76,689,091
Inventories	15,349,955	22,127,455
Prepaid expenses	867,359	874,206
Gas storage	6,296,386	7,251,486
Total current assets	307,354,249	306,656,400
Restricted assets:		
Bond funds	35,991,556	35,948,463
Other funds	1,514	21,482
Total restricted assets	35,993,070	35,969,945
Plant in service	2,834,424,004	2,720,121,544
Less accumulated depreciation	(946,215,640)	(917,026,275)
	1,888,208,364	1,803,095,269
Retirement in progress	4,733,893	3,688,844
Construction in progress	242,837,988	213,384,960
Net plant in service	2,135,780,245	2,020,169,073
Other assets:		
Net pension asset	19,121,375	-
Long-term contingency fund investments	16,935,949	29,934,235
TVA conservation program receivable	1,933,798	2,961,311
Under recovered purchased gas cost	1,513,434	1,339,422
Other	12,371,684	12,989,818
Total other assets	51,876,240	47,224,786
Total assets	2,531,003,804	2,410,020,204
Deferred outflows of resources:		
Pension outflow	8,123,085	17,252,635
OPEB outflow	4,178,710	2,493,180
Unamortized bond refunding costs	20,934,777	21,462,880
Total deferred outflows of resources	33,236,572	41,208,695
Total assets and deferred outflows of resources	$ 2,564,240,376	$ 2,451,228,899

The accompanying notes are an integral part of these consolidated financial statements.

Knoxville Utilities Board
Consolidated Statements of Net Position
June 30, 2020 and 2019

	2020	2019
Liabilities, Deferred Inflows, and Net Position		
Current liabilities:		
Current portion of revenue bonds	$ 43,125,000	$ 39,970,000
Sales tax collections payable	1,375,324	1,422,867
Accounts payable	74,337,079	51,433,305
Accrued expenses	21,443,876	20,412,212
Customer deposits plus accrued interest	21,690,456	20,674,169
Accrued interest on revenue bonds	13,807,353	14,675,955
Total current liabilities	175,779,088	148,588,508
Other liabilities:		
TVA conservation program	2,023,948	3,082,829
Accrued compensated absences	10,280,214	9,184,481
Customer advances for construction	9,658,968	8,144,729
Net pension liability	20,236	6,881,639
Net OPEB liability	7,589,447	1,447,742
Over recovered purchased power cost	1,848,630	2,674,466
Other	263,388	236,604
Total other liabilities	31,684,831	31,652,490
Long-term debt:		
Revenue bonds	1,085,670,000	1,101,955,000
Unamortized premiums/discounts	40,419,199	33,071,871
Total long-term debt	1,126,089,199	1,135,026,871
Total liabilities	1,333,553,118	1,315,267,869
Deferred inflows of resources:		
Pension inflow	20,568,586	3,843,381
Total deferred inflows of resources	20,568,586	3,843,381
Total liabilities and deferred inflows of resources	1,354,121,704	1,319,111,250
Net position		
Net investment in capital assets	990,228,184	871,180,151
Restricted for:		
Debt service	22,184,203	21,272,508
Other	1,514	21,482
Unrestricted	197,704,771	239,643,508
Total net position	1,210,118,672	1,132,117,649
Total liabilities, deferred inflows, and net position	$ 2,564,240,376	$ 2,451,228,899

The accompanying notes are an integral part of these consolidated financial statements.

Knoxville Utilities Board
Consolidated Statements of Revenues, Expenses and Changes in Net Position
June 30, 2020 and 2019

	2020	2019
Operating revenues		
Electric	$ 538,808,337	$ 551,464,042
Gas	102,265,243	108,316,063
Water	61,882,169	57,555,214
Wastewater	100,795,468	98,054,399
Total operating revenues	803,751,217	815,389,718
Operating expenses		
Purchased power	393,246,624	413,008,588
Purchased gas	42,989,092	49,554,956
Treatment	16,305,741	16,355,397
Distribution and collection	70,822,228	66,589,972
Customer service	14,007,340	15,710,333
Administrative and general	41,668,181	42,600,716
Provision for depreciation	72,825,673	74,729,662
Taxes and tax equivalents	35,862,712	36,310,281
Total operating expenses	687,727,591	714,859,905
Operating income	116,023,626	100,529,813
Non-operating revenues (expenses)		
Contributions in aid of construction	4,826,784	4,915,266
Interest income	4,739,605	6,625,915
Interest expense	(43,127,332)	(43,590,141)
Amortization of debt costs	195,502	102,529
Write-down of plant for costs recovered through contributions	(4,826,784)	(4,915,266)
Other	(247,449)	566,668
Total non-operating revenues (expenses)	(38,439,674)	(36,295,029)
Change in net position before capital contributions	77,583,952	64,234,784
Capital contributions	417,071	1,103,607
Change in net position	78,001,023	65,338,391
Net position, beginning of year	1,132,117,649	1,066,779,258
Net position, end of year	$ 1,210,118,672	$ 1,132,117,649

The accompanying notes are an integral part of these consolidated financial statements.

Knoxville Utilities Board
Consolidated Statements of Cash Flows
June 30, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash receipts from customers	$ 800,678,418	$ 817,447,076
Cash receipts from other operations	15,674,228	15,864,600
Cash payments to suppliers of goods or services	(499,147,360)	(559,980,615)
Cash payments to employees for services	(57,577,942)	(56,925,927)
Payment in lieu of taxes	(30,924,835)	(31,550,780)
Cash receipts from collections of TVA conservation loan program participants	1,171,803	1,539,808
Cash payments for TVA Conservation loan program	(1,203,172)	(1,548,508)
Net cash provided by operating activities	228,671,140	184,845,654
Cash flows from capital and related financing activities:		
Net proceeds from bond issuance	37,863,502	80,122,836
Principal paid on revenue bonds	(42,619,999)	(37,860,000)
Interest paid on revenue bonds	(43,995,934)	(43,006,465)
Acquisition and construction of plant	(196,870,532)	(203,842,819)
Changes in bond funds, restricted	(43,093)	(2,442,009)
Customer advances for construction	1,558,719	3,347,423
Proceeds received on disposal of plant	283,021	342,017
Cash received from developers and individuals for capital purposes	4,826,784	4,915,266
Net cash used in capital and related financing activities	(238,997,532)	(198,423,751)
Cash flows from investing activities:		
Purchase of investment securities	(93,646,469)	(71,745,842)
Maturities of investment securities	106,545,000	42,935,000
Interest received	5,071,875	6,479,650
Other property and investments	161,566	(668,695)
Net cash provided by (used in) investing activities	18,131,972	(22,999,887)
Net increase (decrease) in cash and cash equivalents	7,805,580	(36,577,984)
Cash and cash equivalents, beginning of year	91,639,940	128,217,924
Cash and cash equivalents, end of year	$ 99,445,520	$ 91,639,940
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 116,023,626	$ 100,529,813
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	75,652,541	77,384,125
Changes in operating assets and liabilities:		
Accounts receivable	(5,842)	5,408,188
Inventories	6,777,500	1,064,356
Prepaid expenses	961,947	(221,767)
TVA conservation program receivable	1,027,513	1,339,690
Other assets	(62,267)	1,352,685
Sales tax collections payable	(47,543)	49,434
Accounts payable and accrued expenses	29,359,322	2,610,084
TVA conservation program payable	(1,058,881)	(1,348,390)
Unrecovered purchased power cost	(825,836)	(2,032,249)
Underrecovered gas costs	(174,012)	(2,806,145)
Customer deposits plus accrued interest	1,016,287	1,434,638
Other liabilities	26,785	81,192
Net cash provided by operating activities	$ 228,671,140	$ 184,845,654
Noncash capital activities:		
Acquisition of plant assets through developer contributions	$ 417,071	$ 1,103,607

The accompanying notes are an integral part of these consolidated financial statements.

1. Description of Business

Knoxville Utilities Board (KUB), comprised of the Electric Division, Gas Division, Water Division, and Wastewater Division (Divisions), is reported as a component unit enterprise fund in the financial statements of the City of Knoxville. KUB's responsibility is to oversee the purchase, production, distribution, and processing of electricity, natural gas, water, and wastewater services. A seven-member Board of Commissioners (Board) governs KUB. The Board has all powers to construct, acquire, expand, and operate the Divisions. It has full control and complete jurisdiction over the management and operation of the Divisions, including setting rates. KUB's accounts are maintained in conformity with the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC), the Uniform System of Accounts of the National Association of Regulatory Utility Commissioners (NARUC), and the Governmental Accounting Standards Board (GASB), as applicable.

2. Significant Accounting Policies

Basis of Accounting

In conformity with Generally Accepted Accounting Principles (GAAP), KUB follows the provisions of GASB Statement No. 34 (Statement No. 34), *Financial Statements – and Management's Discussion and Analysis – for State and Local Governments,* as amended by GASB Statement No. 63 (Statement No. 63), *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position.* Statement No. 34 established standards for external financial reporting for all state and local governmental entities. Under Statement No. 63, financial statements include deferred outflows of resources and deferred inflows of resources, in addition to assets and liabilities, and report *net position* instead of net assets. In addition, KUB follows GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* as it relates to certain items for regulatory accounting. Regulatory accounting allows a regulated utility to defer a cost (a regulatory asset) or recognize an obligation (a regulatory liability) if it is probable that through the rate making process, there will be a corresponding increase or decrease in future revenues. Accordingly, KUB has recognized certain regulatory assets and regulatory liabilities in the accompanying Statements of Net Position.

The consolidated financial statements are prepared on the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred. The accounting and financial reporting treatment applied is determined by measurement focus. The transactions are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the Statement of Net Position. Net position (i.e., total assets and deferred outflows of resources net of total liabilities and deferred inflows of resources) is segregated into net investment in capital assets, restricted for capital activity and debt service, and unrestricted components.

Recently Adopted New Accounting Pronouncements

In May 2020, the GASB issued GASB Statement No. 95 (Statement No. 95), *Postponement of the Effective Dates of Certain Authoritative Guidance.* The objective of this Statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. That objective is accomplished by postponing the effective dates of certain provisions in Statements and Implementation Guides that first became effective or are scheduled to become effective for fiscal years beginning after June 15, 2018. The requirements of this Statement are effective immediately.

Principles of Consolidation

The consolidated financial statements include the accounts of the Electric, Gas, Water and Wastewater Divisions. All significant intercompany balances and transactions have been eliminated in consolidation.

KUB issues separate financial reports, which include financial statements and required supplementary information, for the Electric, Gas, Water, and Wastewater Divisions. These reports may be obtained by writing Knoxville Utilities Board, P.O. Box 59017, Knoxville, TN 37950-9017.

Plant

Plant and other property are stated on the basis of original cost. The costs of current repairs and minor replacements are charged to operating expense. The costs of renewals and improvements are capitalized. The original cost of utility plant assets retired or otherwise disposed of and the cost of removal less salvage value is charged to accumulated depreciation. When other property is retired, the related asset and accumulated depreciation are removed from the accounts, and the gain or loss is included in the results of operations.

The provision for depreciation of plants in service is based on the estimated useful lives of the assets, which range from three to sixty-seven years, and is computed using the straight-line method. Pursuant to FERC/NARUC, the caption "Provision for depreciation" in the consolidated Statements of Revenues, Expenses and Changes in Net Position does not include depreciation for transportation equipment of $2,826,868 in fiscal year 2020 and $2,654,463 in fiscal year 2019. Under regulatory accounting, interest costs are expensed as incurred with construction of plant assets.

Operating Revenue

Operating revenue consists primarily of charges for services provided by the principal operations of KUB. Operating revenue is recorded when the service is rendered, on a cycle basis, and includes an estimate of unbilled revenue. Revenues are reported net of bad debt expense of $1,917,715 in fiscal year 2020 and $1,926,366 in fiscal year 2019.

Non-operating Revenue

Non-operating revenue consists of revenues that are related to financing and investing types of activities and result from non-exchange transactions or ancillary activities.

Expense

When an expense is incurred for purposes for which there are both restricted and unrestricted assets available, it is KUB’s policy to apply those expenses to restricted assets to the extent such are available and then to unrestricted assets.

Net Position

GASB Statement No. 63 requires the classification of net position into three components – net investment in capital assets, net position-restricted, and net position-unrestricted.

These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt also should be included in this component of net position. If there are significant unspent related debt proceeds at year end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

  Net position-restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

- Net position-unrestricted – This component of net position consists of assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

Contributions in Aid of Construction and Capital Contributions

Contributions in aid of construction are cash collections from customers or others for a particular purpose, generally the construction of new facilities to serve new customers in excess of the investment KUB is willing to make for a particular incremental revenue source. KUB reduces the plant account balances to which contributions relate by the actual amount of the contribution and recognizes the contributions as non-operating revenue in accordance with Statement No. 62.

Capital contributions represent contributions of utility plant infrastructure constructed by developers and others in industrial parks and other developments and transferred to KUB upon completion of construction and the initiation of utility service. In accordance with GASB Statement No. 33, *Accounting and Financial Reporting for Nonexchange Transactions*, such contributions are recognized as revenues and capital assets upon receipt.

Inventories

Inventories, consisting of plant materials and operating supplies, are valued at the lower of average cost or replacement value.

OPEB Plan

KUB's employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the Rule of 80 (age plus years of service) with a minimum of 20 years of service and were enrolled in medical coverage on their last day, are eligible for post-employment health care. KUB's OPEB Trust was established by KUB's Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. KUB's policy is to fully fund the annual actuarially determined contributions, which are determined by actuarial valuation. As required by GASB Statement No. 75, KUB measures net OPEB liability as total OPEB liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a June 30, 2020 and 2019 measurement date, respectively. The net OPEB liability is $7,589,447 as of June 30, 2020, and $1,447,742 as of June 30, 2019.

Pension Plan and Qualified Excess Benefit Arrangement

KUB's employees are participants in the Knoxville Utilities Board Pension Plan as authorized by the Charter of the City of Knoxville §1107(J) (Note 10). KUB's policy is to fully fund the annual actuarially determined contributions. As required by GASB Statement No. 68, KUB measures net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The net pension asset is $19,121,375 as of June 30, 2020, and the net pension liability was $6,649,756 as of June 30, 2019.

KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB (Note 11). As required by GASB Statement No. 73, KUB measures the total pension liability of the QEBA. The amounts reported as of June 30, 2020 and 2019 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively. The total pension liability of the QEBA is $20,236 as of June 30, 2020, and $231,883 as of June 30, 2019.

Investments

Investments are carried at fair value as determined by quoted market prices at the reporting date.

Self-Insurance

KUB has established self-insurance programs covering portions of workers' compensation, employee health, environmental liability, general liability, property and casualty liability, and automobile liability claims. A liability is accrued for claims as they are incurred. When applicable, claims in excess of the self-insured risk are covered by KUB's insurance carrier. Additionally, KUB provides certain lifetime health benefits to eligible retired employees under a self-insurance plan administered by a third party.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are based on historical experience and various other assumptions that KUB believes are reasonable under the circumstances. However, future events are subject to change and the best estimates and judgments routinely require adjustment. Estimates are used for, but not limited to, inventory valuation, allowance for uncollectible accounts, depreciable lives of plant assets, unbilled revenue volumes, pension trust valuations, OPEB trust valuations, insurance liability reserves, and potential losses from contingencies and litigation. Actual results could differ from those estimates.

Restricted and Designated Assets

Certain assets are restricted by bond resolutions for the construction of utility plant and debt repayment. Certain additional assets are designated by management for contingency purposes and economic development.

Cash Equivalents

For purposes of the Statements of Cash Flows, KUB considers all unrestricted and undesignated highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Deferred Outflows and Inflows of Resources

Deferred outflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. Deferred inflows of resources are items related to the acquisition of assets or related debt which are amortized over the life of the asset or debt. KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. Deferred outflows of resources also include employer pension contributions made subsequent to the measurement date of the net pension liability and before the end of the employer’s reporting period in accordance with Statement No. 71. Deferred inflows and deferred outflows also include the net difference between projected and actual earnings on pension plan investments and OPEB plan investments, differences between expected and actual experience, and changes in assumptions in accordance with Statements No. 68, 73, and 75.

Debt Premium/Discount

KUB records unamortized premium and discount on debt as a separate line item in the Long Term Debt section of the Financial Statements. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Debt Issuance Costs

In accordance with regulatory accounting, KUB records debt issuance costs as an Other Asset. Amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Deferred Gain/Loss on Refunding of Debt

KUB records costs associated with the gain or loss on refunding of debt as either a deferred outflow or inflow based on the parameters of Statement No. 65. In accordance with FERC presentation, amortization of these amounts is recorded over the life of the applicable debt as amortization expense.

Compensated Absences

KUB accrues a liability for earned but unpaid paid time off (PTO) days.

TVA Conservation Program

KUB previously served as a fiscal intermediary for the Tennessee Valley Authority (TVA) whereby loans were made to KUB customers by TVA to be used in connection with TVA's Energy Right Residential Program. While KUB still holds existing loans on behalf of TVA, no loans were made through this program after October 31, 2015.

Subsequent Events

KUB has evaluated events and transactions through October 29, 2020, the date these financial statements were issued, for items that should potentially be recognized or disclosed. KUB sold $9,045,000 in water system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding water system capital improvements in fiscal year 2021. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.36 percent. Annual debt service payments including principal and interest range from $313,539 to $470,050 with final maturity in fiscal year 2050. KUB sold $27,460,000 in wastewater system revenue bonds on October 7, 2020, with a scheduled closing on October 30, 2020, for the purpose of funding wastewater system capital improvements in fiscal year 2021. The true interest cost of the bonds, which were sold through a competitive bidding process, was 2.41 percent. Annual debt service payments including principal and interest range from $919,320 to $1,416,300 with final maturity in fiscal year 2050.

Purchased Power Adjustment

In October 2002, the Board adopted a Purchased Power Adjustment (PPA) to address changes in wholesale power costs. The PPA was established in response to an amendment to KUB's power supply contract under which, among other things, TVA relinquished its regulatory authority over KUB retail electric rates. The PPA allows KUB to promptly adjust retail electric rates in response to wholesale rate changes or adjustments, thus ensuring that KUB will recover the costs incurred for purchased power. These changes in electric costs are reflected as adjustments to the base electric rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the "self-regulated" provisions of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, and KUB meets the remaining criteria of Statement No. 62.

TVA implemented a fuel cost adjustment in October 2006 applied on a quarterly basis to wholesale power rates. TVA's quarterly fuel cost adjustment became a monthly fuel cost adjustment effective October 2009. KUB flows changes to wholesale power rates from TVA's fuel cost adjustment mechanism directly through to its retail electric rates via the PPA.

In April 2011, TVA modified its wholesale rate structure to demand and energy billing for its distributors. In response, KUB revised its PPA to include a deferred accounting component to ensure appropriate matching of revenue and expense and cost recovery. KUB will adjust its retail rates on an annual basis to flow any over or under recovery of wholesale power costs through to its customers via the PPA.

Under the PPA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Power Cost accounts. These accounts are rolled into the PPA rate adjustments thereby assuring that any over/(under) recovered amounts are promptly passed on to the KUB's electric customers. The amount of over/(under) recovered cost was $1,848,630 at June 30, 2020, and $2,674,466 at June 30, 2019.

Purchased Gas Adjustment

In November 1990, the Board implemented a deferred Purchased Gas (Cost) Adjustment (PGA) mechanism, which allows KUB to flow changes in purchased gas costs through to its customers. These changes in gas costs are reflected as adjustments to the base gas rates established by the Board. The rate-setting authority vested in the Board by the City Charter meets the “self-regulated” provisions of GASB Statement No. 62 (Statement No. 62), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

The PGA is intended to ensure that KUB recovers the total cost of natural gas purchased, transported and/or reserved for delivery to its sales and transportation customers on an equitable basis. The PGA is also intended to ensure that no excess or deficient cost recovery from KUB’s customers occurs.

Under the PGA mechanism, KUB tracks the actual over/(under) recovered amount in the Over/(Under) Recovered Purchased Gas Cost accounts. These accounts are rolled into the PGA rate adjustment on June 30 of each year thereby ensuring that any over/(under) recovered amounts are passed on to KUB’s gas system customers. The amount of over/(under) recovered cost was ($1,513,434) at June 30, 2020, and ($1,339,422) at June 30, 2019.

Recently Issued Accounting Pronouncements

In January 2017, the GASB issued GASB Statement No. 84 (Statement No. 84), *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. Statement No. 84 is effective for fiscal years beginning after December 15, 2019.

In June 2017, the GASB issued GASB Statement No. 87 (Statement No. 87), *Leases*. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset. Statement No. 87 is effective for fiscal years beginning after June 15, 2021.

In June 2018, the GASB issued GASB Statement No. 89 (Statement No. 89), *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objectives of this Statement are to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period, and to simplify accounting for interest cost incurred before the end of a construction period. Statement No. 89 is effective for fiscal years beginning after December 15, 2020.

In August 2018, the GASB issued GASB Statement No. 90 (Statement No. 90), *Major Equity Interests – an amendment of GASB Statements No. 14 and No. 61.* The objectives of this Statement are to improve the consistency and comparability of reporting a government’s majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. Statement No. 90 is effective for fiscal years beginning after December 15, 2019.

In May 2019, the GASB issued GASB Statement No. 91 (Statement No. 91), *Conduit Debt Obligations.* The objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. Statement No. 91 is effective for fiscal years beginning after December 15, 2021.

In January 2020, the GASB issued GASB Statement No. 92 (Statement No. 92), *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. Certain provisions of

Statement No. 92 were effective immediately. Paragraphs 6, 7, 8, 9, and 12 are effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 93 (Statement No. 93), *Replacement of Interbank Offered Rates.* This Statement establishes accounting and financial reporting requirements related to the replacement of IBORs in hedging derivative instruments and leases. It also identifies appropriate benchmark interest rates for hedging derivative instruments. Statement No. 93 is effective for fiscal years beginning after June 15, 2021.

In March 2020, the GASB issued GASB Statement No. 94 (Statement No. 94), *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by improving the comparability of financial statements among governments that enter in PPPs and APAs. Statement No. 94 is effective for fiscal years beginning after June 15, 2022.

In May 2020, the GASB issued GASB Statement No. 96 (Statement No. 96), *Subscription-Based Information Technology Arrangements.* The objective of this Statement is to better meet the information needs of financial statement users by (a) establishing uniform accounting and financial reporting requirements for SBITAs; (b) improving the comparability of financial statements among governments that have entered into SBITAs; and (c) enhancing the understandability, reliability, relevance, and consistency of information about SBITAs. Statement No. 96 is effective for fiscal years beginning after June 15, 2022.

In June 2020, the GASB issued GASB Statement No. 97 (Statement No. 97), *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* The objectives of this Statement are to (a) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (b) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (c) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans. Statement No. 97 is effective for fiscal years beginning after June 15, 2021.

KUB has not elected early implementation of these standards and has not completed the process of evaluating the impact of these statements on its financial statements.

3. Deposits and Investments

KUB follows the provisions of Statement No. 40 of the Governmental Accounting Standards Board, *Deposit and Investment Risk Disclosures—an amendment of GASB Statement No. 3*. This Statement establishes and modifies disclosure requirements for state and local governments related to deposit and investment risks. KUB classifies its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*.

KUB's investment policy provides the framework for the administration and investment of cash deposits. The investment policy follows Tennessee State law and defines the parameters under which KUB funds should be invested. State law authorizes KUB to invest in obligations of the United States Treasury, its agencies and instrumentalities; certificates of deposit; repurchase agreements; money market funds; and the State Treasurer's Investment Pool.

Interest Rate Risk. KUB's primary investment objectives are to place investments in a manner to ensure the preservation of capital, remain sufficiently liquid to meet all operating requirements, and maximize yield of return. KUB minimizes its exposure to interest rate risk by adhering to Tennessee State law requirements for the investment of public funds. This includes limiting investments to those types described above and limiting maturity horizons. The maximum maturity is four years from the date of investment. KUB also limits its exposure by holding investments to maturity unless cash flow requirements dictate otherwise.

Credit Risk. KUB's investment policy, as required by state law, is to apply the prudent-person rule: Investments are made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable income to be derived, as well as the probable safety of their capital.

Custodial Credit Risk. KUB's investment policy limits exposure to custodial credit risk by restricting investments to a standard set forth by state law. All deposits in excess of federal depository insurance limits are collateralized with government securities held in KUB's name by a third-party custodian bank(s) acting as KUB's agent(s), or through the State of Tennessee's collateral pool. Financial institutions that participate in the collateral pool are subject to special assessment; therefore, the deposits are considered insured. A portion of KUB's investments are generally held in the State of Tennessee Local Government Investment Pool (LGIP). The LGIP is a part of the State Pooled Investment Fund and is sponsored by the State of Tennessee Treasury Department. Tennessee Code Annotated ¶9-4-701 *et seq*. authorizes local governments to invest in the LGIP. None of KUB's investments are exposed to custodial credit risk.

Classification of deposits and investments per Statement of Net Position:

	2020	**2019**
Current assets		
Cash and cash equivalents	$ 99,445,520	$ 91,639,940
Short-term investments	12,578,300	27,471,225
Short-term contingency fund investments	94,257,567	79,038,925
Other assets		
Long-term contingency fund investments	16,590,303	29,366,076
Restricted assets		
Bond fund	35,991,556	35,948,463
Other funds	1,514	21,482
	$ 258,864,760	$ 263,486,111

The above amounts do not include accrued interest of $358,658 in fiscal year 2020 and $568,159 in fiscal year 2019. Interest income is recorded on an accrual basis.

Investments and maturities of KUB's deposits and investments as held by financial institutions as of June 30, 2020:

	Deposit and Investment Maturities (in Years)		
	Fair Value	**Less Than 1**	**1-5**
Supersweep NOW and Other Deposits	$ 124,850,348	$ 124,850,348	$ -
State Treasurer's Investment Pool	67,936,014	67,936,014	-
Agency Bonds	71,686,171	55,095,868	16,590,304
	$ 264,472,533	$ 247,882,230	$ 16,590,304

KUB categorizes its fair value measurements within the fair value hierarchy established by Statement No. 72 of the Governmental Accounting Standards Board, *Fair Value Measurement and Application*. The hierarchy is based on the valuation inputs used to measure the fair value of an asset with a maturity at purchase of greater than one year. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

KUB has the following recurring fair value measurements as of June 30, 2020:

- U.S. Agency bonds of $16,590,304, which have a maturity at purchase of greater than one year, are valued using quoted market prices (Level 1 inputs)

KUB measures investments with a maturity at purchase of one year or less at amortized cost, which is considered a fair value equivalent due to their nature. Investments in the State Treasurer's Investment Pool are measured at net asset value (NAV) per share.

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4. Accounts Receivable

Accounts receivable consists of the following:

	2020	**2019**
Wholesale and retail customers		
Billed services	$ 46,716,972	$ 48,109,474
Unbilled services	28,284,426	26,627,126
Other	2,287,957	2,542,380
Allowance for uncollectible accounts	(594,422)	(589,889)
	$ 76,694,933	$ 76,689,091

5. Accounts Payable and Accruals

Accounts payable and accruals consist of the following:

	2020	**2019**
Trade accounts	$ 74,337,079	$ 51,433,305
Salaries and wages	3,721,785	3,196,798
Advances on pole rental	1,262,510	1,224,209
Self-insurance liabilities	1,720,620	1,911,512
Other current liabilities	14,738,961	14,079,693
	$ 95,780,955	$ 71,845,517

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6. Long-Term Obligations

	Balance June 30, 2019	Additions	Payments	Defeased	Balance June 30, 2020	Amounts Due Within One Year
Electric						
Z-2010 - 1.45 - 6.35%	$ 19,930,000	$ -	$ 1,390,000	$ 17,115,000	$ 1,425,000	$ 1,425,000
AA-2012 - 3.0 - 5.0%	25,835,000	-	2,955,000	-	22,880,000	3,100,000
BB-2012 - 3.0 - 4.0%	31,125,000	-	750,000	-	30,375,000	800,000
CC-2013 - 3.0 - 4.0%	8,085,000	-	500,000	-	7,585,000	515,000
DD-2014 - 2.0 - 4.0%	37,125,000	-	800,000	-	36,325,000	825,000
EE-2015 - 2.0 - 5.0%	27,975,000	-	2,075,000	-	25,900,000	2,135,000
FF-2015 - 2.0 - 5.0%	32,900,000	-	750,000	-	32,150,000	775,000
GG-2016 - 2.0 - 5.0%	38,400,000	-	850,000	-	37,550,000	900,000
HH-2017 - 2.5 - 5.0%	21,500,000	-	1,990,000	-	19,510,000	2,090,000
II-2017 - 3.0 - 5.0%	39,300,000	-	765,000	-	38,535,000	805,000
JJ-2018 - 3.0 - 5.0%	39,995,000	-	775,000	-	39,220,000	815,000
KK-2020 - 5.0%	-	14,380,000	-	-	14,380,000	-
Total bonds	$ 322,170,000	$ 14,380,000	$ 13,600,000	$ 17,115,000	$ 305,835,000	$ 14,185,000
Unamortized Premium	11,673,884	2,896,021	901,731	-	13,668,174	-
Total long term debt	$ 333,843,884	$ 17,276,021	$ 14,501,731	$ 17,115,000	$ 319,503,174	$ 14,185,000
Gas						
P-2010 - 3.3 - 6.2%	$ 10,295,000	$ -	$ 620,000	$ 9,675,000	$ -	$ -
Q-2012 - 2.0 - 4.0%	16,265,000	-	2,260,000	-	14,005,000	2,350,000
R-2012 - 2.0 - 4.0%	8,150,000	-	450,000	-	7,700,000	475,000
S-2013 - 2.0 - 4.0%	9,650,000	-	645,000	-	9,005,000	695,000
T-2013 - 2.0 - 4.6%	22,900,000	-	500,000	-	22,400,000	500,000
U-2015 - 2.0 - 5.0%	10,305,000	-	680,000	-	9,625,000	710,000
V-2016 - 2.125 - 5.0%	11,300,000	-	250,000	-	11,050,000	250,000
W-2017 - 5.0%	6,720,000	-	705,000	-	6,015,000	735,000
X-2017 - 2.0 - 5.0%	11,565,000	-	245,000	-	11,320,000	260,000
Y-2018 - 3.0 - 5.0%	7,790,000	-	155,000	-	7,635,000	160,000
Z-2020 - 4.0 - 5.0%	-	6,755,000	-	-	6,755,000	610,000
Total bonds	$ 114,940,000	$ 6,755,000	$ 6,510,000	$ 9,675,000	$ 105,510,000	$ 6,745,000
Unamortized Premium	4,193,696	1,164,700	397,369	67,459	4,893,568	-
Total long term debt	$ 119,133,696	$ 7,919,700	$ 6,907,369	$ 9,742,459	$ 110,403,568	$ 6,745,000
Water						
W-2011 - 2.0 - 5.0%	$ 21,150,000	$ -	$ 550,000	$ 20,600,000	$ -	$ -
X-2012 - 3.0 - 5.0%	7,050,000	-	590,000	-	6,460,000	625,000
Y-2013 - 3.0 - 4.0%	8,070,000	-	340,000	-	7,730,000	350,000
Z-2013 - 2.0 - 5.0%	22,150,000	-	550,000	-	21,600,000	575,000
AA-2014 - 2.0 - 4.0%	7,275,000	-	175,000	-	7,100,000	175,000
BB-2015 - 2.0 - 5.0%	20,985,000	-	950,000	-	20,035,000	960,000
CC-2015 - 2.0 - 4.0%	18,450,000	-	425,000	-	18,025,000	450,000
DD-2016 - 3.0 - 5.0%	23,750,000	-	525,000	-	23,225,000	550,000
EE-2016 - 2.0 - 5.0%	20,675,000	-	1,090,000	-	19,585,000	1,155,000
FF-2017 - 3.0 - 5.0%	4,375,000	-	475,000	-	3,900,000	495,000
GG-2017 - 2.125 - 5.0%	19,420,000	-	395,000	-	19,025,000	415,000
HH-2018 - 3.0 - 5.0%	19,470,000	-	380,000	-	19,090,000	395,000
II-2019 - 3.0 - 5.0%	-	19,995,000	400,000	-	19,595,000	365,000
JJ-2020 - 3.0 - 5.0%	-	19,520,000	-	-	19,520,000	630,000
Total bonds	$ 192,820,000	$ 39,515,000	$ 6,845,000	$ 20,600,000	$ 204,890,000	$ 7,140,000
Unamortized Premium	5,847,325	2,660,942	402,958	196,016	7,909,293	-
Total long term debt	$ 198,667,325	$ 42,175,942	$ 7,247,958	$ 20,796,016	$ 212,799,293	$ 7,140,000
Wastewater						
2010 - 6.3 - 6.5%	$ 30,000,000	$ -	$ -	$ 30,000,000	$ -	$ -
2010C - 1.18 - 6.1%	60,050,000	-	1,600,000	-	58,450,000	1,650,000
2012A - 2.0 - 4.0%	11,800,000	-	950,000	-	10,850,000	1,085,000
2012B - 1.25 - 5.0%	59,325,000	-	1,100,000	-	58,225,000	1,150,000
2013A - 2.0 - 4.0%	109,800,000	-	685,000	-	109,115,000	710,000
2014A - 2.0 - 4.0%	27,800,000	-	500,000	-	27,300,000	525,000
2015A - 3.0 - 5.0%	121,390,000	-	5,305,000	-	116,085,000	5,460,000
2015B - 3.0 - 5.0%	28,000,000	-	525,000	-	27,475,000	525,000
2016 - 2.0 - 5.0%	18,750,000	-	475,000	-	18,275,000	475,000
2017A - 3.0 - 5.0%	9,100,000	-	1,525,000	-	7,575,000	1,605,000
2017B - 2.0 - 5.0%	24,260,000	-	515,000	-	23,745,000	540,000
2018 - 3.0 - 5.0%	11,720,000	-	235,000	-	11,485,000	245,000
2019 - 3.0 - 5.0%	-	16,000,000	250,000	-	15,750,000	300,000
2020 - 3.0 - 5.0%	-	28,230,000	-	-	28,230,000	785,000
Total bonds	$ 511,995,000	$ 44,230,000	$ 13,665,000	$ 30,000,000	$ 512,560,000	$ 15,055,000
Unamortized Premium	11,356,966	3,388,697	640,486	157,013	13,948,164	-
Total long term debt	$ 523,351,966	$ 47,618,697	$ 14,305,486	$ 30,157,013	$ 526,508,164	$ 15,055,000
Consolidated						
Total bonds	$ 1,141,925,000	$ 104,880,000	$ 40,620,000	$ 77,390,000	$ 1,128,795,000	$ 43,125,000
Total unamortized premium	33,071,871	10,110,360	2,342,545	420,488	40,419,199	-
Total long term debt	$ 1,174,996,871	$ 114,990,360	$ 42,962,545	$ 77,810,488	$ 1,169,214,199	$ 43,125,000

	Balance June 30, 2018	Additions	Payments	Defeased	Balance June 30, 2019	Amounts Due Within One Year
Electric						
Y-2009 - 2.5 - 5.0%	$ 1,850,000	$ -	$ 1,850,000	$ -	$ -	$ -
Z-2010 - 1.45 - 6.35%	21,285,000	-	1,355,000	-	19,930,000	1,390,000
AA-2012 - 3.0 - 5.0%	28,640,000	-	2,805,000	-	25,835,000	2,955,000
BB-2012 - 3.0 - 4.0%	31,850,000	-	725,000	-	31,125,000	750,000
CC-2013 - 3.0 - 4.0%	8,560,000	-	475,000	-	8,085,000	500,000
DD-2014 - 2.0 - 4.0%	37,900,000	-	775,000	-	37,125,000	800,000
EE-2015 - 2.0 - 5.0%	28,125,000	-	150,000	-	27,975,000	2,075,000
FF-2015 - 2.0 - 5.0%	33,625,000	-	725,000	-	32,900,000	750,000
GG-2016 - 2.0 - 5.0%	39,225,000	-	825,000	-	38,400,000	850,000
HH-2017 - 2.5 - 5.0%	23,390,000	-	1,890,000	-	21,500,000	1,990,000
II-2017 - 3.0 - 5.0%	40,000,000	-	700,000	-	39,300,000	765,000
JJ-2018 - 3.0 - 5.0%	-	39,995,000	-	-	39,995,000	775,000
Total bonds	$ 294,450,000	$ 39,995,000	$ 12,275,000	$ -	$ 322,170,000	$ 13,600,000
Unamortized Premium	12,031,042	516,151	873,309	-	11,673,884	-
Total long term debt	$ 306,481,042	$ 40,511,151	$ 13,148,309	$ -	$ 333,843,884	$ 13,600,000
Gas						
P-2010 - 3.3 - 6.2%	$ 10,890,000	$ -	$ 595,000	$ -	$ 10,295,000	$ 620,000
Q-2012 - 2.0 - 4.0%	18,455,000	-	2,190,000	-	16,265,000	2,260,000
R-2012 - 2.0 - 4.0%	8,575,000	-	425,000	-	8,150,000	450,000
S-2013 - 2.0 - 4.0%	10,265,000	-	615,000	-	9,650,000	645,000
T-2013 - 2.0 - 4.6%	23,400,000	-	500,000	-	22,900,000	500,000
U-2015 - 2.0 - 5.0%	10,965,000	-	660,000	-	10,305,000	680,000
V-2016 - 2.125 - 5.0%	11,550,000	-	250,000	-	11,300,000	250,000
W-2017 - 5.0%	7,390,000	-	670,000	-	6,720,000	705,000
X-2017 - 2.0 - 5.0%	11,800,000	-	235,000	-	11,565,000	245,000
Y-2018 - 3.0 - 5.0%	-	8,000,000	210,000	-	7,790,000	155,000
Total bonds	$ 113,290,000	$ 8,000,000	$ 6,350,000	$ -	$ 114,940,000	$ 6,510,000
Unamortized Premium	4,510,823	70,169	387,296	-	4,193,696	-
Total long term debt	$ 117,800,823	$ 8,070,169	$ 6,737,296	$ -	$ 119,133,696	$ 6,510,000
Water						
U-2009 - 3.0 - 4.5%	$ 950,000	$ -	$ 950,000	$ -	$ -	$ -
W-2011 - 2.0 - 5.0%	21,700,000	-	550,000	-	21,150,000	550,000
X-2012 - 3.0 - 5.0%	7,615,000	-	565,000	-	7,050,000	590,000
Y-2013 - 3.0 - 4.0%	8,390,000	-	320,000	-	8,070,000	340,000
Z-2013 - 2.0 - 5.0%	22,675,000	-	525,000	-	22,150,000	550,000
AA-2014 - 2.0 - 4.0%	7,425,000	-	150,000	-	7,275,000	175,000
BB-2015 - 2.0 - 5.0%	21,870,000	-	885,000	-	20,985,000	950,000
CC-2015 - 2.0 - 4.0%	18,875,000	-	425,000	-	18,450,000	425,000
DD-2016 - 3.0 - 5.0%	24,250,000	-	500,000	-	23,750,000	525,000
EE-2016 - 2.0 - 5.0%	20,775,000	-	100,000	-	20,675,000	1,090,000
FF-2017 - 3.0 - 5.0%	4,840,000	-	465,000	-	4,375,000	475,000
GG-2017 - 2.125 - 5.0%	19,800,000	-	380,000	-	19,420,000	395,000
HH-2018 - 3.0 - 5.0%	-	19,995,000	525,000	-	19,470,000	380,000
Total bonds	$ 179,165,000	$ 19,995,000	$ 6,340,000	$ -	$ 192,820,000	$ 6,445,000
Unamortized Premium	5,743,978	467,809	364,462	-	5,847,325	-
Total long term debt	$ 184,908,978	$ 20,462,809	$ 6,704,462	$ -	$ 198,667,325	$ 6,445,000
Wastewater						
2010 - 6.3 - 6.5%	$ 30,000,000	$ -	$ -	$ -	$ 30,000,000	$ -
2010C - 1.18 - 6.1%	61,600,000	-	1,550,000	-	60,050,000	1,600,000
2012A - 2.0 - 4.0%	12,770,000	-	970,000	-	11,800,000	950,000
2012B - 1.25 - 5.0%	60,375,000	-	1,050,000	-	59,325,000	1,100,000
2013A - 2.0 - 4.0%	110,460,000	-	660,000	-	109,800,000	685,000
2014A - 2.0 - 4.0%	28,275,000	-	475,000	-	27,800,000	500,000
2015A - 3.0 - 5.0%	126,400,000	-	5,010,000	-	121,390,000	5,305,000
2015B - 3.0 - 5.0%	28,500,000	-	500,000	-	28,000,000	525,000
2016 - 2.0 - 5.0%	19,200,000	-	450,000	-	18,750,000	475,000
2017A - 3.0 - 5.0%	10,560,000	-	1,460,000	-	9,100,000	1,525,000
2017B - 2.0 - 5.0%	24,750,000	-	490,000	-	24,260,000	515,000
2018 - 3.0 - 5.0%	-	12,000,000	280,000	-	11,720,000	235,000
Total bonds	$ 512,890,000	$ 12,000,000	$ 12,895,000	$ -	$ 511,995,000	$ 13,415,000
Unamortized Premium	11,860,393	101,285	604,712	-	11,356,966	-
Total long term debt	$ 524,750,393	$ 12,101,285	$ 13,499,712	$ -	$ 523,351,966	$ 13,415,000
Consolidated						
Total bonds	$ 1,099,795,000	$ 79,990,000	$ 37,860,000	$ -	$ 1,141,925,000	$ 39,970,000
Total unamortized premium	34,146,236	1,155,414	2,229,779	-	33,071,870	-
Total long term debt	$ 1,133,941,236	$ 81,145,414	$ 40,089,779	$ -	$ 1,174,996,870	$ 39,970,000

Debt service over remaining term of the debt is as follows:

Fiscal Year	Principal	Interest	Total
2021	$ 43,125,000	$ 40,754,376	$ 83,879,376
2022	44,405,000	38,975,118	83,380,118
2023	46,340,000	36,979,427	83,319,427
2024	48,290,000	34,979,691	83,269,691
2025	49,250,000	33,166,366	82,416,366
2026-2030	240,305,000	139,942,269	380,247,269
2031-2035	210,255,000	100,324,466	310,579,466
2036-2040	215,295,000	63,516,376	278,811,376
2041-2045	171,375,000	25,471,882	196,846,882
2046-2050	60,155,000	3,926,648	64,081,648
Total	$ 1,128,795,000	$ 518,036,619	$ 1,646,831,619

The Divisions have pledged sufficient revenue, after deduction of all current operating expenses (exclusive of tax equivalents), to meet bond principal and interest payments of revenue bonds when due. Such bond requirements are being met through monthly deposits to the bond funds as required by the bond covenants. As of June 30, 2020, these requirements had been satisfied.

During fiscal year 2011, KUB's Electric Division issued series Z 2010 bonds to fund electric system capital improvements. The bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. These bonds are subject to a reduction in rebate payment amounts which is subject to change based on Congressional action. As of October 1, 2019, the effective reduction in rebate is 5.9 percent. During fiscal year 2019, KUB's Electric Division issued Series JJ 2018 bonds to fund electric system capital improvements. During fiscal year 2020, KUB's Electric Division issued Series KK 2020 bonds to retire a portion of outstanding Series Z 2010 bonds as follows. On May 22, 2020, $14.4 million in revenue refunding bonds with an average interest rate of 5 percent were issued to advance refund $17.1 million of outstanding bonds with an average interest rate of 5.8 percent. The net proceeds of $17.1 million (after payment of $0.2 million in issuance costs plus premium of $2.9 million) were used to purchase U.S. government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for future debt service payments on the bonds, with the exception of the July 1, 2020 debt service payment. As a result, the remaining bonds are considered to be refunded and the liability of $17.1 million for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 11 years by $2.4 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $2.2 million.

During fiscal year 2019, KUB's Gas Division issued Series Y 2018 bonds to fund gas system capital improvements. During fiscal year 2020, KUB's Gas Division issued Series Z 2020 bonds to retire a portion of outstanding Series P 2010 bonds as follows. On May 22, 2020, $6.8 million in revenue refunding bonds with an average interest rate of 4.7 percent were issued to currently refund $9.7 million of outstanding bonds with an average interest rate of 6.1 percent. The net proceeds of $9.8 million (after payment of $0.1 million in issuance costs plus premium of $1.1 million and an additional issuer equity contribution of $2 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 12 years by $1.8 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $1.3 million.

During fiscal year 2019, KUB’s Water Division issued HH 2018 bonds to fund water system capital improvements. During fiscal year 2020, KUB’s Water Division issued Series II 2019 bonds to fund water system capital improvements. KUB’s Water Division also issued Series JJ 2020 bonds to retire a portion of outstanding Series W 2011 bonds as follows. On May 22, 2020, $19.5 million in revenue refunding bonds with an average interest rate of 3.2 percent were issued to currently refund $20.6 million of outstanding bonds with an average interest rate of 4 percent. The net proceeds of $20.8 million (after payment of $0.2 million in issuance costs plus premium of $1.5 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 20 years by $3.9 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $3.1 million.

During fiscal year 2011, KUB’s Wastewater Division issued Series 2010C bonds to fund capital improvements. These bonds were issued as federally taxable Build America Bonds with a 35 percent interest payment rebate to be received from the United States Government for each interest payment. These bonds are subject to a reduction in rebate payment amounts which is subject to change based on Congressional action. As of October 1, 2019, the effective reduction in rebate is 5.9 percent. During fiscal year 2019, KUB’s Wastewater Division issued Series 2018 bonds to fund wastewater system capital improvements. During fiscal year 2020, KUB’s Wastewater Division issued Series 2019 bonds to fund wastewater system capital improvements. KUB’s Wastewater Division also issued Series 2020 bonds to retire a portion of outstanding Series 2010 bonds as follows. On May 22, 2020, $28.2 million in revenue refunding bonds with an average interest rate of 3.3 percent were issued to currently refund $30 million of outstanding bonds with an average interest rate of 6.4 percent. The net proceeds of $30.3 million (after payment of $0.3 million in issuance costs plus premium of $2.4 million) were used to refund the bonds. As a result, the bonds are considered to be refunded and the liability for those bonds has been removed from the financial statements. This refunding decreases total debt service payments over the next 25 years by $18.9 million resulting in an economic gain (difference between the present values of the debt service payments on the old and new debt) of $8.8 million.

Other liabilities consist of the following:

	Balance June 30, 2019	Increase	Decrease	Balance June 30, 2020
TVA conservation program	$ 3,082,829	$ 176,370	$ (1,235,251)	$ 2,023,948
Accrued compensated absences	9,184,481	16,101,901	(15,006,168)	10,280,214
Customer advances for construction	8,144,729	3,467,243	(1,953,004)	9,658,968
Other	236,604	448,069	(421,285)	263,388
	$ 20,648,643	$ 20,193,583	$ (18,615,708)	$ 22,226,518

	Balance June 30, 2018	**Increase**	**Decrease**	**Balance June 30, 2019**
TVA conservation program	$ 4,431,219	$ 229,677	$ (1,578,067)	$ 3,082,829
Accrued compensated absences	8,497,960	17,219,913	(16,533,392)	9,184,481
Customer advances for construction	4,927,837	5,388,950	(2,172,058)	8,144,729
Other	155,411	460,348	(379,155)	236,604
	$ 18,012,427	$ 23,298,888	$ (20,662,672)	$ 20,648,643

7. Lease Commitments

KUB has non-cancelable operating lease commitments for office equipment, property, and vehicles, summarized for the following fiscal years:

2021	$ 313,658
2022	105,405
2023	15,586
2024	13,714
2025	13,714
Total operating minimum lease payments	$ 462,077

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8. Capital Assets

Capital asset activity was as follows:

	Balance June 30, 2019	**Increase**	**Decrease**	**Balance June 30, 2020**
Production Plant (Intakes)	$ 742,503	$ -	$ -	$ 742,503
Pumping and Treatment Plant	330,416,249	16,032,444	(1,912,647)	344,536,046
Distribution and Collection Plant				
Mains and metering	1,059,317,613	52,233,740	(9,858,902)	1,101,692,451
Services and meters	232,626,565	23,499,929	(21,633,098)	234,493,396
Electric station equipment	162,076,580	11,097,794	(1,016,847)	172,157,527
Poles, towers and fixtures	190,331,961	8,214,374	(1,483,237)	197,063,098
Overhead conductors	159,466,936	6,401,128	(4,299,228)	161,568,836
Line transformers	103,617,680	2,488,983	(1,010,136)	105,096,527
Other accounts	295,372,474	11,447,667	(4,059,326)	302,760,815
Total Distribution & Collection Plant	$ 2,202,809,809	$ 115,383,615	$ (43,360,774)	$ 2,274,832,650
General Plant	186,152,983	29,647,823	(1,488,001)	214,312,805
Total Plant Assets	$ 2,720,121,544	$ 161,063,882	$ (46,761,422)	$ 2,834,424,004
Less Accumulated Depreciation	(917,026,275)	(76,331,498)	47,142,133	(946,215,640)
Net Plant Assets	$ 1,803,095,269	$ 84,732,384	$ 380,711	$ 1,888,208,364
Work In Progress	217,073,804	191,689,791	(161,191,714)	247,571,881
Total Net Plant	$ 2,020,169,073	$ 276,422,175	$ (160,811,003)	$ 2,135,780,245

	Balance June 30, 2018	**Increase**	**Decrease**	**Balance June 30, 2019**
Production Plant (Intakes)	$ 742,503	$ -	$ -	$ 742,503
Pumping and Treatment Plant	318,574,479	14,159,127	(2,317,357)	330,416,249
Distribution and Collection Plant				
Mains and metering	1,032,950,195	33,661,520	(7,294,102)	1,059,317,613
Services and meters	202,172,532	33,921,735	(3,467,702)	232,626,565
Electric station equipment	158,378,701	4,513,155	(815,276)	162,076,580
Poles, towers and fixtures	176,892,740	15,553,101	(2,113,880)	190,331,961
Overhead conductors	155,165,532	12,895,083	(8,593,679)	159,466,936
Line transformers	101,994,883	2,854,573	(1,231,776)	103,617,680
Other accounts	288,745,129	10,031,160	(3,403,815)	295,372,474
Total Distribution & Collection Plant	$ 2,116,299,712	$ 113,430,327	$ (26,920,230)	$ 2,202,809,809
General Plant	181,111,380	7,796,309	(2,754,706)	186,152,983
Total Plant Assets	$ 2,616,728,074	$ 135,385,763	$ (31,992,293)	$ 2,720,121,544
Less Accumulated Depreciation	(872,419,331)	(77,516,402)	32,909,458	(917,026,275)
Net Plant Assets	$ 1,744,308,743	$ 57,869,361	$ 917,165	$ 1,803,095,269
Work In Progress	153,685,841	195,236,025	(131,848,062)	217,073,804
Total Net Plant	$ 1,897,994,584	$ 253,105,386	$ (130,930,897)	$ 2,020,169,073

9. Risk Management

KUB is exposed to various risks of loss related to active and retiree medical claims; injuries to workers; theft of, damage to, and destruction of assets; environmental damages; and natural disasters. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported.

These liabilities are included in accrued expenses in the Statement of Net Position. The liability is KUB's best estimate based on available information. At June 30, 2020 and June 30, 2019, the amount of these liabilities was $1,720,620 and $1,911,512, respectively, resulting from the following changes:

	2020	2019
Balance, beginning of year	$ 1,911,512	$ 1,822,689
Current year claims and changes in estimates	14,943,377	17,179,059
Claims payments	(15,134,269)	(17,090,236)
Balance, end of year	$ 1,720,620	$ 1,911,512

10. Pension Plan

Description of Plan

The Knoxville Utilities Board Pension Plan (the Plan) is a governmental plan as defined by the Employee Retirement Income Security Act of 1974 (ERISA or the Act), is not subject to any of the provisions of the Act, and was revised January 1, 2020 to include all prior approved amendments. The Plan is a single-employer contributory, defined benefit pension plan established by Knoxville Utilities Board Resolution No. 980 dated February 18, 1999, effective July 1, 1999, as authorized by the Charter of the City of Knoxville §1107(J). The Plan is designed to provide retirement, disability, and death benefits to KUB employees. KUB administers the Plan through an Administrative Committee consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Plan involving costs not approved in the operating budget must be adopted by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Plan may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The Plan issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

Effective January 1, 2011, KUB closed the Plan such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the Plan.

Participants in the Plan consisted of the following as of December 31:

	2019	2018
Inactive plan members:		
Terminated vested participants	18	21
Retirees and beneficiaries	592	588
Active plan members	551	592
Total	1,161	1,201

Retirement Benefits

The Plan provides three benefit arrangements for KUB participants, retirees, and beneficiaries.

The Plan provides pension benefits through the Career Equity Program ("CEP") for eligible employees hired on or after January 1, 1999, and for eligible former "City System Plan A" participants who elected CEP coverage as of July 1, 1999. The guaranteed pension benefit payable to a participant who has completed five or more years of service (or reached the normal retirement date, if earlier) upon termination of KUB employment shall be a lump sum equal to the participant's average compensation times their benefit percentage, as defined in the Plan document, or an annuity may be chosen by the participant.

In addition, the Plan provided retirement benefits through "Plan A" for former City System Plan A participants who elected not to participate in the CEP. Plan A is a closed plan and is not available to KUB employees hired after July 1, 1999. Plan A provides for early retirement benefits with 25 years of service and normal retirement benefits at age 62 or later. Benefits provided to Plan A participants include several different forms of monthly annuity payments.

The Plan also provides retirement benefits through "Plan B" for former "City System Plan B" participants. Plan B is a closed plan providing benefits to participants not covered by Social Security. Benefits provided to Plan B participants include several different forms of monthly annuity payments available to participants.

Effective January 1, 2012, KUB began to provide for additional monthly supplements, which are not subject to cost of living adjustments, to certain former employees and surviving dependents of former employees who are eligible for and have elected coverage under the KUB retiree medical plan and are eligible for Medicare. This was done to compensate for the elimination of drug coverage under the KUB retiree medical plan and to assist such individuals in obtaining prescription drug coverage under Medicare Part D.

Contributions

Participation in Plan A requires employee contributions of three percent of the first $4,800 of annual earnings and five percent of annual earnings in excess of $4,800. KUB contributions are determined by the enrolled actuary of the Plan and equal the amount necessary to provide the benefits under the Plan determined by the application of accepted actuarial methods and assumptions. The method of funding shall be consistent with Plan objectives.

Plan Funding

KUB maintains a Funding Policy for the Plan in accordance with Tennessee State law. The primary goal of the Policy is to document the method KUB has adopted to provide assurance that future KUB and employee contributions and current Plan assets will be sufficient to fund all benefits expected to be paid to current active, inactive, and retired Plan participants and their beneficiaries. Per the Funding Policy, KUB fully funds its annual Actuarially Determined Contribution.

Investments

The Plan's investments are held by State Street Bank and Trust Company (the "Trustee"). The Plan's policy in regard to the allocation of invested assets is established by the Retirement System Investment Committee and approved by the KUB Board of Commissioners and may only be amended by the KUB Board of Commissioners. It is the policy of the Retirement System Investment Committee to pursue an investment strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The following was the Plan's adopted asset allocation policy as of December 31, 2019:

Asset Class	Target Allocation
Domestic equity – large cap	20% - 50%
Domestic equity – mid cap	0% - 15%
Domestic equity – small cap	0% - 15%
Domestic equity – convertible securities	0% - 10%
Non-U.S. equity	0% - 20%
Real estate equity	0% - 10%
Fixed income – aggregate bonds	5% - 25%
Fixed income – long-term bonds	10% - 25%
Cash and deposits	0% - 5%

Contributions of $2,585,824 and $3,156,661 for 2018 and 2017, respectively, were made during the Plan sponsor's fiscal years ended June 30, 2020 and 2019, respectively. The fiscal year 2020 contribution was determined as part of the January 1, 2018 valuation using the Individual Entry Age Normal funding method. The objective under this method is to fund each participant's benefits under the Plan as payments which are level as a percentage of salary, starting on the original participation date (employment date) and continuing until the assumed retirement, termination, disability, or death.

Net Pension Liability

The below summarizes the disclosures of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* ("GASB 68"), which requires measurement of the net pension liability as total pension liability less the amount of the Plan's fiduciary net position. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively.

GASB 68 requires certain disclosures related to the net pension liability of the Plan as disclosed below:

	2019	2018
Total pension liability	$ 226,818,557	$ 212,157,951
Plan fiduciary net position	(245,939,932)	(205,508,195)
Plan's net pension liability (asset)	$ (19,121,375)	$ 6,649,756
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%

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Changes in Net Pension Liability are as follows:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at December 31, 2018	$ 212,157,951	$ 205,508,195	$ 6,649,756
Changes for the year:			
Service cost	6,142,213	-	6,142,213
Interest	16,030,626	-	16,030,626
Changes of Benefits	163,199	-	163,199
Differences between Expected and Actual Experience	(1,054,117)	-	(1,054,117)
Changes of Assumptions	8,473,160	-	8,473,160
Contributions - employer	-	2,871,241	(2,871,241)
Contributions - rollovers	-	3,167,836	(3,167,836)
Contributions - member	-	2,989	(2,989)
Net investment income	-	49,951,894	(49,951,894)
Benefit payments	(15,094,475)	(15,094,475)	-
Administrative expense	-	(467,748)	467,748
Net changes	14,660,606	40,431,737	(25,771,131)
Balances at December 31, 2019	$ 226,818,557	$ 245,939,932	$ (19,121,375)

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	January 1, 2019, rolled forward to December 31, 2019; January 1, 2018, rolled forward to December 31, 2018
Discount rate	7.25% as of December 31, 2019; 7.50% as of December 31, 2018
Salary increase	From 2.50% to 5.65%, based on years of service as of December 31, 2019; from 2.80% to 5.15%, based on years of service as of December 31, 2018
Mortality	115% and 110% of the PubG-2010 table, for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019; 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on an actuarial experience study covering the period January 1, 2014 through December 31, 2018. The discount rate was subsequently reduced from 7.5 percent to 7.25 percent as of the December 31, 2019 measurement date. The Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), effective January 1, 2020.

The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013.

Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

The long-term expected rate of return on Plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Plan's target asset allocation as of December 31, 2019 and 2018 are summarized in the following table. The real rate of return reported for fixed income is for aggregate fixed income. The Plan has both aggregate and long duration fixed income.

	Long Term Expected Real Rate of Return	
Asset Class	**2019**	**2018**
Domestic equity	5.5%	5.8%
Non-U.S. equity	6.4%	6.9%
Real estate equity	5.9%	6.0%
Debt securities	1.5%	1.7%
Cash and deposits	0.6%	0.7%

Discount rate
The discount rate used to measure the total pension liability was 7.25 percent as of December 31, 2019, and 7.5 percent as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate
The following presents the net pension liability of the Plan as of December 31, 2019, calculated using the discount rate of 7.25 percent, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is one percent lower (6.25 percent) or one percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Plan's net pension liability (surplus)	$ 946,692	$ (19,121,375)	$ (36,452,396)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of $2,673,376.

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5.00 years. During the measurement year, there was an experience gain of $1,054,117, with $210,822 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $843,295. Unrecognized experience gains from prior periods were $2,408,388, of which $1,163,381 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,245,007.

During the measurement year, there was an assumption change loss of $8,473,160, with $1,694,632 of that recognized in the current year and each of the next four years, resulting in a deferred outflow of $6,778,528. Unrecognized assumption change decreases from prior periods were $1,387,733, of which $658,104 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $729,629.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of $34,889,331, of which $6,977,866 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment losses from prior periods were $15,614,774, of which $5,418,519 was recognized as an increase in pension expense in the current year. The combination of unrecognized investment gains this year along with the net unrecognized investment losses from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2019 of $17,715,210. The following table summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over future years. In addition, KUB recorded a deferred outflow of resources of $1,292,915 at June 30, 2020 for employer contributions made between December 31, 2019 and June 30, 2020.

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	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,088,302
Changes in assumptions	6,778,528	729,629
Net difference between projected and actual earnings on pension plan investments	-	17,715,210
Contributions subsequent to measurement date	1,292,915	-
Total	$ 8,071,443	$ 20,533,141

$1,292,915 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ (4,595,539)
2022	(3,722,647)
2023	57,633
2024	(5,494,060)
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $4,128,608.

The impact of experience gains or losses and assumption changes on the Total Pension Liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5.00 years. During the measurement year, there was an experience gain of $605,649, with $121,129 of that recognized in the current year and in each of the next four years, resulting in a deferred inflow of $484,520. Unrecognized experience gains from prior periods were $2,966,120, of which $1,042,251 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,923,868.

During the measurement year, there were no benefit changes or assumption changes. Unrecognized assumption change decreases from prior periods were $2,045,837, of which $658,103 was recognized as a reduction in pension expense in the current year and resulted in a deferred inflow of $1,387,733.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $28,364,098, of which $5,672,818 was recognized in the current year and an identical amount will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $8,925,385, of which $1,848,878 was recognized as a decrease in pension expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on pension plan investments as of December 31, 2018 of $15,614,774.

The following table summarizes the current balances of deferred outflows and deferred inflows of resources. In addition, KUB recorded a deferred outflow of resources of $1,578,332 at June 30, 2019 for employer contributions made between December 31, 2018 and June 30, 2019.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 2,408,388
Changes in assumptions	-	1,387,733
Net difference between projected and actual earnings on pension plan investments	15,614,774	-
Contributions subsequent to measurement date	1,578,332	-
Total	$ 17,193,106	$ 3,796,121

11. Qualified Excess Benefit Arrangement

Description

In fiscal year 2017, KUB implemented a qualified governmental excess benefit arrangement (QEBA) under IRC section 415(m), which was created by Congress to allow the payment of pension benefits that exceed the IRC section 415(b) limits (and therefore cannot be paid from a qualified retirement plan). The QEBA is a single-employer defined benefit pension plan, administered by KUB. The number of participants in any given year for the QEBA is determined by the number of KUB Pension Plan participants who exceed the current year's section 415(b) limitations, as calculated by the KUB Pension Plan actuary. The amount of QEBA benefit will be the amount specified by the terms of the KUB Pension Plan without regard to Section 415(b) limitations minus the amount payable from the KUB Pension Plan as limited by Section 415(b). QEBA benefits are subject to cost of living adjustments.

As of June 30, 2020, there are 532 active employees eligible for the KUB Pension Plan who are potentially eligible to receive QEBA benefits. There is currently one member receiving benefits under the QEBA. The KUB Pension Plan was closed effective January 1, 2011, such that persons employed or re-employed by KUB on or after January 1, 2011, are not eligible to participate, but that eligible employees hired prior to January 1, 2011, who have not separated from service, shall continue as Participants and accrue benefits under the KUB Pension Plan. The KUB Pension Plan was amended to include the provision of QEBA benefits; therefore, amendments to the QEBA require the same authority as amendments to the KUB Pension Plan. As required by federal tax law, the QEBA is unfunded within the meaning of the federal tax laws. KUB may not pre-fund the QEBA to cover future liabilities beyond the current year. KUB has established procedures to pay for these benefits on a pay-as-you-go basis, funded by KUB. There are no assets accumulated in a trust that meets the GASB's criteria.

Total Pension Liability of the QEBA

The below summarizes the disclosures of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68* ("GASB 73"). GASB 73 extends a similar approach of financial reporting to plans meeting specific criteria that are not administered through trusts that GASB 68 established for pension plans. GASB 73 requires measurement of the total pension liability of the QEBA. The amounts reported as of June 30 must be based upon a plan measurement date within the prior twelve months. Therefore, KUB's measurements as of June 30, 2020 and 2019 are based on a December 31, 2019 and 2018 measurement date, respectively.

GASB 73 requires certain disclosures related to the total pension liability of the QEBA, as disclosed below:

	2019	**2018**
Total pension liability	$20,236	$231,883
Deferred outflows	(45,559)	(52,287)
Deferred inflows	35,445	47,260
Net impact on Statement of Net Position	$10,122	$226,856
Covered payroll	$40,276,197	$42,150,040
Total pension liability as a % of covered payroll	0.05%	0.55%

Changes in total pension liability of the QEBA are as follows:

	Increase (Decrease) Total Pension Liability
Balances at December 31, 2018	$ 231,883
Changes for the year:	
Service cost	-
Interest	9,181
Changes of Benefits	(218,272)
Differences between Expected and Actual Experience	34
Changes of Assumptions	13,342
Benefit payments	(15,932)
Net changes	(211,647)
Balances at December 31, 2019	$ 20,236

Actuarial Assumptions
The total pension liability of the QEBA was determined by an actuarial valuation, using the following actuarial assumptions applied to all periods included in the measurement:

Valuation dates	December 31, 2019 and December 31, 2018
Actuarial cost method	Individual entry age
Salary increase	From 2.80% to 5.15%, based on years of service
Mortality	115% and 110% of the Public Sector General Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table for ages prior to the start of the Healthy Annuitant Table, both projected from the 2010 base rates using scale MP2018, fully generational as of December 31, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of December 31, 2018
Inflation	2.5% as of December 31, 2019, and 2.8% as of December 31, 2018

The actuarial assumptions used in the December 31, 2019 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2018. The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period January 1, 2009 through December 31, 2013. Subsequent revisions to lump sum and post-disability assumptions were based upon updated experience through December 31, 2015 and to retirement and termination rates and expense assumptions based upon updated experience through December 31, 2016.

Discount rate
The QEBA is not funded. In accordance with paragraph 31 of GASB 73, the discount rate is based on the Bond Buyer 20-Bond GO index. This rate was 2.74% at December 31, 2019.

Sensitivity of the total pension liability to changes in the discount rate
The following presents the total pension liability of the QEBA as of December 31, 2019, calculated using the discount rate of 2.74 percent, as well as what the QEBA's total pension liability would be if it were calculated using a discount rate that is one percent lower (1.74 percent) or one percent higher (3.74 percent) than the current rate:

	1% Decrease (1.74%)	**Current Discount Rate (2.74%)**	**1% Increase (3.74%)**
QEBA's total pension liability	$ 20,423	$ 20,236	$ 20,053

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2020, KUB recognized pension expense of ($199,098) for the QEBA. This amount is not expected to be the same as KUB's contribution to the QEBA ($17,636), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$10,122 - $226,856 + $17,636].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2018, this average was 5 years. During the measurement year, there was an experience loss of $34, with $7 recognized in the current year and each of the next four years, resulting in a deferred outflow of $27. There was a deferred inflow at the end of the measurement year of $21,675 from experience gains in prior years and a deferred outflow of $5,473 from experience losses in prior years.

During the measurement year, the Plan was amended to provide automatic increases to retirees for benefits limited under Code §415(d), resulting in a change in benefits of $218,272 that was recognized in the current year. There was an increase in the total pension liability due to assumption changes of $13,342, with $2,668 recognized in the current year and each of the next four years, resulting in a deferred outflow of $10,674. There was a deferred inflow at the end of the measurement year of $13,770 and a deferred outflow of $29,385 from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $6,083 at June 30, 2020 for contributions between December 31, 2019 and June 30, 2020.

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 5,500	$ 21,675
Changes in assumptions	40,059	13,770
Contributions subsequent to measurement date	6,083	-
Total	$ 51,642	$ 35,445

$6,083 reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction of the total pension liability in the year ended June 30, 2021. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

Year ended June 30:	
2021	$ 8,289
2022	8,289
2023	(9,140)
2024	2,676
Thereafter	-

For the year ended June 30, 2019, KUB recognized pension expense of $29,543 for the QEBA. This amount is not expected to be the same as KUB's contribution to the QEBA ($13,312), but instead represents the change in the net impact on KUB's Statement of Net Position plus employer contributions [$226,856 - $210,625 + $13,312].

The impact of experience gains or losses and assumption changes on the total pension liability are recognized in the pension expense over the average expected remaining service life of all active and inactive members, determined as of the beginning of the measurement period. As of December 31, 2017, this average was 5 years. During the measurement year, there was an experience gain of $36,125, with $7,225 recognized in the current year and each of the next four years, resulting in a deferred inflow of $28,900. There was a deferred outflow at the end of the measurement year of $8,210 from experience losses in prior years.

During the measurement year, there were no benefit changes. There was a decrease in the total pension liability due to assumption changes of $22,950, with $4,590 recognized in the current year and each of the next four years, resulting in a deferred inflow of $18,360. There was a deferred outflow at the end of the measurement year of $44,077 from assumption changes in prior years. In addition, KUB recorded a deferred outflow of resources of $7,242 at June 30, 2019 for contributions between December 31, 2018 and June 30, 2019.

The table below summarizes the current balances of deferred outflows and deferred inflows of resources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 8,210	$ 28,900
Changes in assumptions	44,077	18,360
Contributions subsequent to measurement date	7,242	-
Total	$ 59,529	$ 47,260

12. Defined Contribution Plan

The KUB Asset Accumulation 401(k) Plan (the “401(k) Plan”) is a defined contribution 401(k) employee retirement savings plan covering eligible KUB employees established by the KUB Board of Commissioners in accordance with the Charter of the City of Knoxville, Tennessee. The 401(k) Plan’s assets are held in trust under an agreement between KUB and Fidelity Management Trust Company. Employees hired prior to January 1, 2011 may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. Employees hired on or after January 1, 2011 have an enhanced 401(k) due to the closure of the Defined Benefit Pension Plan. They may participate and receive a matching contribution of 50 percent of their own contribution up to a maximum match of 3 percent. They also receive a nonelective KUB contribution of 3 percent to 6 percent, depending on years of service, whether they contribute or not.

KUB funded 401(k) matching contributions and nonelective contributions of $2,469,273 and $2,410,201, respectively, for the years ended June 30, 2020 and 2019.

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13. Other Post-Employment Benefits (OPEB)

Description of Trust

The Knoxville Utilities Board Other Post Employment Benefits Trust (the Trust) is a single-employer Other Post Employment Benefits Plan (OPEB Plan) established by the Knoxville Utilities Board of Commissioners through Resolution No. 1168, as amended, dated October 18, 2007. The applicable documentation was submitted to the State Funding Board and, in December 2007, the State Funding Board approved the Trust. The Trust was also approved by the Internal Revenue Service in June 2008. KUB administers the Trust through a Board of Trustees consisting of seven KUB employees that are appointed by KUB's President and CEO. Any amendments to the Trust involving costs not approved in the operating budget must be approved by KUB's Board of Commissioners, upon recommendation by KUB's President and CEO. All other amendments to the Trust may be approved by KUB's President and CEO upon 60 days notification to the Board's Audit and Finance Committee. The investment of all deposits to the Trust is governed by an Investment Policy, which was adopted by the KUB Board and approved by the State Funding Board. The Trust issues a financial report, which includes financial statements and required supplementary information. The report may be obtained by writing the Knoxville Utilities Board Retirement System, P.O. Box 59017, Knoxville, TN 37950-9017.

Effective July 1, 1999, KUB closed the OPEB Plan such that persons employed or re-employed by KUB on or after July 1, 1999, are not eligible to participate, but that eligible employees hired prior to July 1, 1999, who are retired and who (prior to retirement) qualified for retiree medical insurance by meeting the “Rule of 80”, the sum of age and at least 20 years of qualified service equal or exceed 80, accrue benefits under the Plan.

Participants in the OPEB Plan consisted of the following as of June 30:

	2020	2019
Retirees	555	554
Dependents of retirees	576	550
Eligible active employees	181	288
Total	1,312	1,392

Benefits

Other post-employment benefits may include, but shall not be limited to, medical, prescription drugs, dental, vision, hearing, Medicare Part B or Part D premiums, life insurance, long-term care, and long-term disability. Only medical and pharmacy are currently provided to eligible retirees.

Contributions and Plan Funding

The primary goal of the Funding Policy for the Trust is to document the method KUB has adopted to provide assurance that future KUB and retiree contributions and current Trust assets will be sufficient to fund all benefits expected to be paid to Trust beneficiaries. Per the Funding Policy, KUB's current practice is to fully fund its annual Actuarially Determined Contribution, which is determined by actuarial valuation.

Contributions are authorized by the terms of the Trust as established by KUB Resolution No. 1168, as amended, as approved by the Tennessee State Funding Board. KUB shall have the right at any time to amend, in whole or in part, the provisions of this Trust; however, no such amendment shall authorize or permit the assets of the Trust to be used for or diverted to purposes other than those expressed in the Declaration of Trust.

It shall be the sole and exclusive responsibility of KUB to determine the level of contributions KUB will make to the Trust for the purpose of financing other post-employment benefits accrued by its respective participants. Neither the Trust, nor the Trust's Board, shall be responsible for collecting or otherwise determining the level of contributions needed by KUB to finance any other post-employment benefits offered by KUB. The assets of the Trust shall be expended solely to make payments for other post-employment benefits pursuant to, and in accordance with, the terms of the Trust and to pay the cost of administration.

Based on the date of retirement, certain retired plan members are required to contribute specified amounts monthly to maintain health insurance. Those who retired prior to July 1983 have no required monthly premiums for themselves or dependents. The retirees, or their surviving dependents, who retired between August 1983 and January 1998 are required to pay $262.50 per month for pre-Medicare family health insurance. For individuals who retired after January 1998, the required monthly premium for pre-Medicare health insurance is $262.50 for single coverage and $525 for family coverage. There is currently no premium for Medicare eligible retirees or dependents. KUB is responsible for determining the level of retired plan member contributions on an annual basis, as part of its review of healthcare cost sharing.

Investments

The Trust holds investments in a balanced fund, which invests in passively managed common trust index funds, managed and sponsored by State Street Global Advisors (SSgA), with an asset allocation mirroring the asset allocation of the Trust and rebalanced monthly. The Trust's Investment Policy was established and may only be amended by the KUB Board of Commissioners. The Trust's Investment Policy is to invest in a manner that will provide sufficient investment return to meet current and future retiree health benefits, while conforming to all governing State and Federal statutes. It allows investment of Trust assets in any type of security instrument allowed for in T.C.A 8-50-1203. The following was the Trust's adopted investment target allocations as set forth in the Trust's Investment Policy as of June 30, 2020:

Asset Class	**Target Allocation**
Domestic Equity:	
Large Cap	30%
Small Cap	8%
International Equity:	
Developed	16%
Emerging	8%
Real Estate Equity	8%
Debt Securities	30%
Total	100%

An actuarially determined contribution of $311,324 was made to the OPEB Trust in fiscal year ended June 30, 2020. No contribution was made to the OPEB Trust for the fiscal year ended June 30, 2019. These were based on the OPEB Plan's actuarial valuations as of January 1, 2018, and 2017.

Net OPEB Liability

The below summarizes the disclosures of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"), which requires measurement of the net OPEB liability as total OPEB liability less the amount of the Trust's fiduciary net position. The amounts reported as of June 30 are based on the reporting date for the KUB Other Post-Employment Benefits Plan which is June 30. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2020 and 2019 and the Total OPEB Liability as of the valuation date, January 1, 2019 updated to June 30, 2020, and January 1, 2018 updated to June 30, 2019, respectively. There was one significant event between the valuation date and the measurement date for June 30, 2020 where the discount rate was reduced from 7.5% to 7.25%.

The components of the net OPEB liability of the Trust are as follows as of June 30:

	2020	**2019**
Total OPEB liability	$ 54,544,240	$ 50,197,938
Plan fiduciary net position	46,954,793	48,750,196
Net OPEB liability	$ 7,589,447	$ 1,447,742
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%

Changes in Net OPEB Liability are as follows:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB Liability (Asset) (a) - (b)
Balances at June 30, 2019	$ 50,197,938	$ 48,750,196	$ 1,447,742
Changes for the year:			
Service cost	256,270	-	256,270
Interest	3,672,291	-	3,672,291
Changes of Benefits	(202,408)	-	(202,408)
Differences between Expected and Actual Experience	43,902	-	43,902
Changes of Assumptions	3,604,843	-	3,604,843
Contributions - employer	-	311,324	(311,324)
Contributions - member	-	-	-
Net investment income	-	975,155	(975,155)
Benefit payments	(3,028,596)	(3,028,596)	-
Administrative expense	-	(53,286)	53,286
Net changes	4,346,302	(1,795,403)	6,141,705
Balances at June 30, 2020	$ 54,544,240	$ 46,954,793	$ 7,589,447

Actuarial assumptions
The total OPEB liability was determined by actuarial valuations, using the following actuarial assumptions, applied to all periods included in the measurement:

Valuation dates:	January 1, 2019, updated to June 30, 2020; January 1, 2018, updated to June 30, 2019
Discount rate:	7.25% as of January 1, 2019; 7.5% as of January 1, 2018
Healthcare cost trend rates:	Pre-Medicare: 7.83% grading down to 4.50% over 19 years as of January 1, 2019; 8.00% grading down to 4.50% over 20 years as of January 1, 2018 Medicare: 6.88% grading down to 4.50% over 19 years as of January 1, 2019; 7.00% grading down to 4.50% over 20 years as

	of January 1, 2018 Administrative expenses: 3.0% per year
Salary increases:	From 2.50% to 5.65%, based on years of service as of January 1, 2019; From 2.80% to 5.15%, based on years of service as of January 1, 2018
Mortality:	115% and 110% of the Public Sector Healthy Annuitant Mortality Table (PubG-2010), for males and females, respectively, using the Public Sector General Employee Table (PubG-2010) for ages prior to the start of the Health Annuitant Mortality Table, both projected using scale MP2018 fully generational as of January 1, 2019; Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA as of January 1, 2018
Inflation:	2.5% as of January 1, 2019; 2.8% as of January 1, 2018

The actuarial assumptions used in the January 1, 2019 and January 1, 2018 valuations were based on the results of actuarial experience studies for the periods January 1, 2014 through December 31, 2018 and January 1, 2009 through December 31, 2013, respectively. The discount rate was subsequently reduced to 7.25 percent form 7.50 percent as of January 1, 2020; therefore, the new rate was used to calculate the OPEB liability as of June 30, 2020.

The long-term expected rate of return on Trust investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Trust investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The long-term expected rate of return may be lower in periods of current strong performance due to future valuations that mean revert to the long-term average. Best estimates of arithmetic real rates of return for each major asset class included in the Trust’s target asset allocation (see the discussion of the Trust’s Investment Policy) are summarized in the chart below.

	Long Term Expected Real Rate of Return	
Asset Class	**2020**	**2019**
Domestic equity	5.4%	5.5%
International equity	6.4%	6.4%
Real estate equity	5.8%	5.9%
Debt securities	0.2%	1.5%
Cash and deposits	(0.2%)	0.6%

Discount rate

The discount rate used to measure the total OPEB liability was 7.25 percent and 7.5 percent as of June 30, 2020 and 2019, respectively. The projection of cash flows used to determine the discount rate assumed that participant contributions will be made at the current contribution rate and that KUB contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments. Therefore, the long-term expected rate of return on Trust investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Sensitivity of the net OPEB liability to changes in the discount rate.
The following presents the net OPEB liability of the Trust as of June 30, 2020, calculated using the discount rate of 7.25 percent, as well as what the Trust's net OPEB liability would be if it were calculated using a discount rate that is 1 percent lower (6.25 percent) or 1 percent higher (8.25 percent) than the current rate:

	1% Decrease (6.25%)	**Current Discount Rate (7.25%)**	**1% Increase (8.25%)**
Net OPEB liability	$ 12,643,555	$ 7,589,447	$ 3,282,461

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates.
The following presents the net OPEB liability of the Trust as of June 30, 2020, as well as what the Trust's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1 percent lower or 1 percent higher than the current rate:

	1% Decrease	**Baseline Trends**	**1% Increase**
Net OPEB liability	$ 2,482,856	$ 7,589,447	$ 13,485,387

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2020, KUB recognized OPEB expense of $4,767,499.

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $43,902, with $21,951 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $21,951. Unrecognized experience losses from prior periods were $499,549, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were benefit changes that decreased the expense by $202,408. There was an increase in the Total OPEB Liability due to assumption changes of $3,604,843, with $1,802,422 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,802,421. Unrecognized assumption changes from prior periods were $1,615,800, of which the entire amount is recognized as an increase in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $2,579,092, of which $515,818 was recognized in the current year and will be recognized in each of the next four years, resulting in a deferred outflow of resources as of June 30, 2020 of $2,063,274. Net unrecognized investment losses from prior periods were $377,831, of which $86,767 was recognized as an increase in OPEB expense in the current year and resulting in a net deferred outflow of $291,064. The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 21,951	$ -
Changes in assumptions	1,802,421	-
Net difference between projected and actual earnings on OPEB plan investments	2,354,338	-
Total	$ 4,178,710	$ -

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Year ended June 30:	
2021	$ 2,426,957
2022	602,586
2023	633,347
2024	515,820
2025	-
Thereafter	-

For the year ended June 30, 2019, KUB recognized OPEB expense of $3,046,377.

The impact of liability experience gains or losses and assumption changes on the Total OPEB Liability are recognized in the OPEB expense over the average expected remaining service life of all active and inactive members of the OPEB Plan. As of the beginning of the measurement period, this average was 2.0 years. During the measurement year, there was an experience loss of $999,098, with $499,549 of that recognized in the current year and the remaining amount will be recognized in the next year, resulting in a deferred outflow of resources of $499,549. Unrecognized experience losses from prior periods were $662,384, of which the entire amount is recognized as an increase in OPEB expense in the current year.

During the measurement year, there were no benefit changes. There was an increase in the Total OPEB Liability due to assumption changes of $3,231,601, with $1,615,801 of that recognized in the current year and in the next year, resulting in a deferred outflow of $1,615,800. Unrecognized assumption changes from prior periods were ($198,590), of which the entire amount is recognized as a decrease in OPEB expense in the current year.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment loss of $587,645, of which $117,529 was recognized in the current year and will be recognized in each of the next four years. Net unrecognized investment gains from prior periods were $123,047, of which $30,762 was recognized as a decrease in OPEB expense in the current year. The combination of unrecognized investment losses this year along with the net unrecognized investment gains from prior periods results in a net difference between projected and actual earnings on OPEB plan investments as of June 30, 2019 of $377,831. The table below summarizes the current balances of deferred outflows and deferred inflows of resources.

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 499,549	$ -
Changes in assumptions	1,615,800	-
Net difference between projected and actual earnings on OPEB plan investments	377,831	-
Total	$ 2,493,180	$ -

14. Related Party Transactions

KUB, in the normal course of operations, is involved in transactions with the City of Knoxville. Such transactions for the years ended June 30, 2020 and 2019 are summarized as follows:

	2020	**2019**
City of Knoxville		
Amounts billed by KUB for utilities and related services	$ 12,615,466	$ 13,624,129
Payments by KUB in lieu of property tax	20,036,911	20,238,463
Payments by KUB for services provided	1,721,989	2,773,377

With respect to these transactions, accounts receivable from the City of Knoxville included in the balance sheet at year end were as follows:

	2020	**2019**
Accounts receivable	$ 773,461	$ 754,587

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15. Natural Gas Supply Contract Commitments

For fiscal year 2020, the Gas Division hedged 36 percent of its total gas purchases via gas supply contracts. As of June 30, 2020, the Gas Division had hedged the price on approximately 4 percent of its anticipated gas purchases for fiscal year 2021.

KUB contracts separately for the purchase, transportation and storage of natural gas. Purchase commitments for the next five years are as follows:

Firm obligations related to purchased gas – demand

	2021	2022	2023	2024	2025
Transportation					
Tennessee Gas Pipeline	$ 3,343,892	$ 3,381,612	$ 3,381,612	$ 3,381,612	$ 3,381,612
East Tennessee Natural Gas	9,664,040	9,664,040	9,664,040	9,664,040	9,664,040
Texas Eastern	328,500	328,500	328,500	328,500	328,500
Storage					
Tennessee Gas Pipeline	1,600,272	1,600,272	1,600,272	1,600,272	1,600,272
East Tennessee Natural Gas	727,385	727,385	727,385	727,385	727,385
Saltville Natural Gas	2,000,160	2,000,160	1,655,130	620,040	465,030
Bobcat	156,000	162,000	54,000	-	-
Demand Total	$ 17,820,249	$ 17,863,969	$ 17,410,939	$ 16,321,849	$ 16,166,839

Firm obligations related to purchased gas – commodity

	2021	2022	2023	2024	2025
Baseload					
ConocoPhillips	$ 279,000	$ -	$ -	$ -	$ -
Shell Energy	460,920	-	-	-	-
CNX Gas	2,367,573	-	-	-	-
NJR Energy Services	1,599,632	-	-	-	-
Commodity Total	$ 4,707,125	$ -	$ -	$ -	$ -

The total commodity values presented here are based upon firm supply obligations with each individual natural gas supplier. The firm obligations value for ConocoPhillips and Shell Energy are based upon firm supply obligations and locked prices with those suppliers. The firm obligations value for CNX Gas and NJR Energy Services are based upon firm supply obligations and the applicable NYMEX strip prices on June 30, 2020.

16. Other Commitments and Contingencies

In the normal course of business, there are various lawsuits pending against KUB. Management has reviewed these lawsuits with counsel, who is vigorously defending KUB's position and is of the opinion that the ultimate disposition of these matters will not have a material adverse effect on KUB's financial position, results of operations or cash flows.

In February 2005, a Consent Decree was entered into federal court regarding the operation of KUB’s wastewater system. Under the terms of the Consent Decree, the remediation of identified sanitary sewer overflows (SSOs) on KUB’s wastewater system had to be completed by June 30, 2016. KUB completed all the requirements of the Consent Decree for the collection system two years in advance of the deadline.

The Consent Decree also required KUB to perform an evaluation of the wet weather performance and capacity of its wastewater treatment plants. In July 2007, KUB submitted a Composite Correction Plan (CCP) for its wastewater treatment plants to EPA for review. The development and filing of the CCP was a requirement of the federal order of February 2005. The CCP includes recommended improvements to KUB's Kuwahee and Fourth Creek treatment plants to address wet weather capacity issues noted in prior assessments. The EPA approved the CCP in January 2009 including a recommended schedule of plant improvements that extends beyond the expiration date of the original Consent Decree. An amendment to the Consent Decree incorporating and establishing this schedule was agreed to by all parties and was entered on June 23, 2009. The purpose of the Amendment is to allow KUB to complete a portion of work outlined in the CCP after the Consent Decree deadline of June 30, 2016. The CCP provides for a biologically enhanced high-rate clarification (the BEHRC) secondary treatment system to be installed at the Fourth Creek treatment plant by June 30, 2018 and at the Kuwahee treatment plant by June 30, 2021. KUB successfully completed the installation of the BEHRC system at the Fourth Creek treatment plant ahead of schedule in April 2018. Work is currently ongoing at the Kuwahee treatment plant and remains on schedule for completion before the deadline of June 30, 2021. The total cost of such improvements at the Kuwahee treatment plant is estimated to be approximately $50 million.

KUB's funding plan for the Consent Decree includes long-term bonds and a series of rate increases phased in over the term of the order. Bond proceeds fund all types of wastewater capital projects, the majority of which are related to the Consent Decree. As of June 30, 2020, the Wastewater Division had issued $556.2 million in bonds to fund wastewater system capital improvements since the inception of the Consent Decree. The Board approved two 50 percent rate increases, which went into effect in April 2005 and January 2007. The Board also approved an 8 percent rate increase, which was effective in September 2008, two 12 percent rate increases, which were effective in April 2011 and October 2012, three 6 percent rate increases which were effective October 2014, October 2015, and October 2016 and three 5 percent rate increases which were effective July 2017, July 2018, and July 2019. KUB anticipates additional bond issues and rate increases over the next decade to help fund wastewater capital improvements.

KUB successfully completed the first cycle of Maintenance Operation Management (MOM) requirements one year before the deadline by inspecting manholes and gravity mains, smoke testing gravity mains, performing required inspections of pump stations and the related force mains, and completing all Corrective Action Plan/Engineering Report (CAP/ER) projects. KUB initiated the second MOM cycle that continues to focus on the prevention of SSOs. As part of the Century II initiative, formally known as the PACE10 program, KUB has installed storage tanks providing 34 million gallons of wastewater storage to control wet weather overflows and rehabilitated or replaced 408 miles of collection system pipe. KUB also continues to maintain a proactive operations and maintenance plan for the wastewater collection system including inspection, grease control, and private lateral enforcement. The result of the PACE10/Century II initiative has been an 80 percent reduction in SSOs.

As of June 30, 2020, the Wastewater Division had completed its 16th full year under the Consent Decree, spending $559.8 million on capital investments to meet Consent Decree requirements.

17. Risks and Uncertainties

During March 2020, a global pandemic was declared related to the rapidly growing outbreak of a novel strain of coronavirus (COVID-19). The pandemic has significantly impacted the economic conditions across the nation as federal, state, and local governments react to the public health crisis, creating significant uncertainties in the economy. This situation is rapidly changing, and additional impacts may arise. While the disruption is currently expected to be temporary, there is uncertainty around its duration. The ultimate future impact, if any, of the pandemic on results of operations, financial position, liquidity or capital resources cannot be reasonably estimated at this time.

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18. Segment Information

The following financial information represents identifiable activities for which the revenue bonds and other revenue backed debt are outstanding for the respective Divisions:

Condensed Statement of Net Position

	2020			
	Electric	**Gas**	**Water**	**Wastewater**
Assets and Deferred Outflows of Resources				
Current assets	$ 142,596,498	$ 56,645,627	$ 47,015,529	$ 61,096,595
Restricted assets	19,873,861	3,332,858	4,461,765	8,324,586
Net capital assets	677,193,326	308,721,806	363,225,158	786,639,955
Other assets	19,023,379	8,707,713	7,624,866	16,520,282
Total assets	$ 858,687,064	$ 377,408,004	$ 422,327,318	$ 872,581,418
Deferred outflows of resources	8,535,096	3,059,739	4,534,363	17,107,374
Total assets and deferred outflows of resources	$ 867,222,160	$ 380,467,743	$ 426,861,681	$ 889,688,792
Liabilities and Deferred Inflows of Resources				
Current liabilities	$ 120,647,893	$ 17,800,407	$ 13,412,671	$ 23,918,117
Other liabilities	19,638,654	5,372,728	2,778,648	3,894,801
Long-term debt	305,318,174	103,658,568	205,659,293	511,453,164
Total liabilities	$ 445,604,721	$ 126,831,703	$ 221,850,612	$ 539,266,082
Deferred inflows of resources	9,872,921	3,496,660	2,673,916	4,525,089
Total liabilities and deferred inflows of resources	$ 455,477,642	$ 130,328,363	$ 224,524,528	$ 543,791,171
Net position				
Net investment in capital assets	$ 356,245,321	$ 198,777,130	$ 155,728,467	$ 279,477,265
Restricted	14,185,852	2,113,135	2,240,297	3,646,433
Unrestricted	41,313,345	49,249,115	44,368,389	62,773,923
Total net position	$ 411,744,518	$ 250,139,380	$ 202,337,153	$ 345,897,621

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Condensed Statement of Net Position

	2019			
	Electric	**Gas**	**Water**	**Wastewater**
Assets and Deferred Outflows of Resources				
Current assets	$ 137,680,310	$ 62,061,705	$ 39,581,468	$ 67,332,917
Restricted assets	19,507,008	3,638,555	4,418,741	8,405,641
Net capital assets	634,285,863	292,089,721	340,619,377	753,174,112
Other assets	17,957,337	7,626,693	5,921,643	15,719,112
Total assets	$ 809,430,518	$ 365,416,674	$ 390,541,229	$ 844,631,782
Deferred outflows of resources	12,340,126	4,243,825	5,537,853	19,086,892
Total assets and deferred outflows of resources	$ 821,770,644	$ 369,660,499	$ 396,079,082	$ 863,718,674
Liabilities and Deferred Inflows of Resources				
Current liabilities	$ 94,528,815	$ 16,992,984	$ 12,652,885	$ 24,413,825
Other liabilities	20,105,451	5,028,708	2,692,650	3,825,681
Long-term debt	320,243,884	112,623,696	192,222,325	509,936,966
Total liabilities	$ 434,878,150	$ 134,645,388	$ 207,567,860	$ 538,176,472
Deferred inflows of resources	1,844,823	653,375	499,640	845,544
Total liabilities and deferred inflows of resources	$ 436,722,973	$ 135,298,763	$ 208,067,500	$ 539,022,016
Net position				
Net investment in capital assets	$ 300,562,581	$ 173,773,732	$ 147,251,605	$ 249,592,233
Restricted	13,610,435	2,174,252	2,151,226	3,358,076
Unrestricted	70,874,655	58,413,752	38,608,751	71,746,349
Total net position	$ 385,047,671	$ 234,361,736	$ 188,011,582	$ 324,696,658

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Condensed Statement of Revenues, Expenses and Changes in Net Position

	2020			
	Electric	Gas	Water	Wastewater
Operating revenues	$547,686,983	$ 102,565,268	$ 62,473,524	$ 101,335,524
Operating expenses	481,441,378	70,871,519	31,203,340	41,695,761
Provision for depreciation	29,994,212	12,910,308	10,039,955	19,881,198
Total operating expenses	511,435,590	83,781,827	41,243,295	61,576,959
Operating income	36,251,393	18,783,441	21,230,229	39,758,565
Non-operating expense	(9,723,555)	(3,005,797)	(6,961,046)	(18,749,276)
Change in net position before capital contributions	26,527,838	15,777,644	14,269,183	21,009,289
Capital contributions	169,009	-	56,388	191,674
Change in net position	26,696,847	15,777,644	14,325,571	21,200,963
Net position				
Beginning of year	385,047,671	234,361,736	188,011,582	324,696,658
End of year	$411,744,518	$ 250,139,380	$ 202,337,153	$ 345,897,621

Condensed Statement of Revenues, Expenses and Changes in Net Position

	2019			
	Electric	Gas	Water	Wastewater
Operating revenues	$558,369,583	$ 108,551,679	$ 58,073,479	$ 98,482,153
Operating expenses	497,928,942	76,977,721	32,340,065	40,970,691
Provision for depreciation	31,991,227	12,877,969	10,315,031	19,545,435
Total operating expenses	529,920,169	89,855,690	42,655,096	60,516,126
Operating income	28,449,414	18,695,989	15,418,383	37,966,027
Non-operating expense	(8,537,834)	(3,068,090)	(5,811,120)	(18,877,988)
Change in net position before capital contributions	19,911,580	15,627,899	9,607,263	19,088,039
Capital contributions	120,717	29,791	563,998	389,102
Change in net position	20,032,297	15,657,690	10,171,261	19,477,141
Net position				
Beginning of year	365,015,374	218,704,046	177,840,321	305,219,517
End of year	$385,047,671	$ 234,361,736	$ 188,011,582	$ 324,696,658

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Condensed Statement of Cash Flows

	2020			
	Electric	**Gas**	**Water**	**Wastewater**
Net cash provided by operating activities	$ 101,059,249	$ 35,346,474	$ 33,606,169	$ 58,659,248
Net cash used in capital and related financing activities	(98,741,103)	(42,362,688)	(27,054,805)	(70,838,936)
Net cash provided by (used in) investing activities	15,551,456	(16,935)	922,460	1,674,991
Net increase (decrease) in cash and cash equivalents	17,869,602	(7,033,149)	7,473,824	(10,504,697)
Cash and cash equivalents, beginning of year	25,457,569	31,187,947	12,761,344	22,233,080
Cash and cash equivalents, end of year	$ 43,327,171	$ 24,154,798	$ 20,235,168	$ 11,728,383

Condensed Statement of Cash Flows

	2019			
	Electric	**Gas**	**Water**	**Wastewater**
Net cash provided by operating activities	$ 64,317,384	$ 30,955,487	$ 27,144,260	$ 62,428,523
Net cash used in capital and related financing activities	(68,089,843)	(30,264,126)	(25,849,294)	(74,220,488)
Net cash used in investing activities	(11,104,315)	(939,468)	(2,683,636)	(8,272,468)
Net decrease in cash and cash equivalents	(14,876,774)	(248,107)	(1,388,670)	(20,064,433)
Cash and cash equivalents, beginning of year	40,334,343	31,436,054	14,150,014	42,297,513
Cash and cash equivalents, end of year	$ 25,457,569	$ 31,187,947	$ 12,761,344	$ 22,233,080

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Knoxville Utilities Board
Required Supplementary Information - Schedule of Changes in Net Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31					
	2019	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability						
Service cost	$ 6,142,213	$ 5,095,488	$ 4,607,486	$ 4,226,985	$ 4,157,062	$ 4,092,808
Interest	16,030,626	15,344,193	15,015,282	14,966,559	14,812,784	14,698,657
Changes of benefit terms	163,199	-	-	-	-	-
Differences between expected and actual experience	(1,054,117)	(605,649)	(1,087,161)	(2,233,762)	(1,890,334)	-
Changes of assumptions	8,473,160	-	(357,633)	(2,932,883)	-	-
Benefit payments, including refunds of member contributions	(15,094,475)	(15,274,814)	(14,969,979)	(14,138,511)	(15,350,926)	(15,533,167)
Net change in total pension liability	14,660,606	4,559,218	3,207,995	(111,612)	1,728,586	3,258,298
Total pension liability - beginning	212,157,951	207,598,733	204,390,738	204,502,350	202,773,764	199,515,466
Total pension liability - ending (a)	$ 226,818,557	$ 212,157,951	$ 207,598,733	$ 204,390,738	$ 204,502,350	$ 202,773,764
Plan fiduciary net position						
Contributions - employer	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contributions - participants	3,170,825	2,081,125	1,488,632	555,075	487,546	475,854
Net investment income	49,938,315	(11,748,396)	32,360,219	13,788,263	(95,430)	22,292,369
Other additions	13,579	62,616	82,239	45,848	30,879	29,733
Benefit payments, including refunds of member contributions	(15,030,475)	(15,174,814)	(14,895,979)	(14,044,511)	(15,274,926)	(15,405,167)
Administrative expense	(467,748)	(445,916)	(385,282)	(441,332)	(397,160)	(378,085)
Death benefits	(64,000)	(100,000)	(74,000)	(94,000)	(76,000)	(128,000)
Net change in plan fiduciary net position**	40,431,737	(21,868,910)	22,862,426	5,052,489	(9,333,204)	12,795,245
Plan fiduciary net position - beginning**	205,508,195	227,377,105	204,514,679	199,462,190	208,795,394	196,000,149
Plan fiduciary net position - ending (b)**	$ 245,939,932	$ 205,508,195	$ 227,377,105	$ 204,514,679	$ 199,462,190	$ 208,795,394
Plan's net pension liability - ending (a) - (b)	$ (19,121,375)	$ 6,649,756	$ (19,778,372)	$ (123,941)	$ 5,040,160	$ (6,021,630)
Plan fiduciary net position as a percentage of the total pension liability	108.43%	96.87%	109.53%	100.06%	97.54%	102.97%
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Plan's net pension liability as a percentage of covered payroll	(47.48%)	15.78%	(45.67%)	(0.28%)	11.34%	(13.66%)

Notes to Schedule:

* Information not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented in 2014.

** Excludes amounts related to 401(k) matching contributions.

Knoxville Utilities Board
Required Supplementary Information - Schedule of Employer Pension Contributions
June 30, 2020

	*Year ended December 31					
	2019	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 2,871,241	$ 3,456,475	$ 4,286,597	$ 5,243,146	$ 5,991,887	$ 5,908,541
Contribution in relation to the actuarially determined contribution	2,871,241	3,456,475	4,286,597	5,243,146	5,991,887	5,908,541
Contribution deficiency	$ -	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747	$ 44,446,743	$ 44,076,351
Contributions as a percentage of covered payroll	7.13%	8.20%	9.90%	11.80%	13.48%	13.41%

Notes to Schedule:

Timing:	Actuarially determined contributions for a Plan year are based upon 50% of the amounts determined at the actuarial valuations for each of the two prior Plan years.
Valuation Dates:	January 1, 2018 and January 1, 2017

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Individual entry age
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 23 years remaining (24 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative.
Discount rate:	7.5%
Salary increases:	2.80% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%

* Schedule of Employer Contribution information is not reflected prior to 2014 due to changes in actuary methodologies required under GASB 67, which was implemented 2014. Please refer to prior year's audited financial statements for prior methods and assumptions.

Knoxville Utilities Board
Required Supplementary Information – Schedule of Changes in Net OPEB Liability and Related Ratios
June 30, 2020

	*Year ended June 30 2020	2019	2018
Total OPEB liability			
Service cost	$ 256,270	$ 270,515	$ 202,603
Interest	3,672,291	3,624,737	3,295,240
Change of benefit terms	(202,408)	-	-
Differences between expected and actual experience	43,902	999,098	1,324,769
Changes of assumptions	3,604,843	3,231,601	(397,180)
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Net change in total OPEB liability	4,346,302	4,593,507	1,126,693
Total OPEB liability - beginning	50,197,938	45,604,431	44,477,738
Total OPEB liability - ending (a)	$ 54,544,240	$ 50,197,938	$ 45,604,431
Plan fiduciary net position			
Contributions - employer	$ 311,324	$ -	$ -
Net investment income	975,155	2,981,928	3,705,473
Benefit payments	(3,028,596)	(3,532,444)	(3,298,739)
Administrative expense	(53,286)	(54,787)	(51,668)
Net change in plan fiduciary net position	(1,795,403)	(605,303)	355,066
Plan fiduciary net position - beginning	48,750,196	49,355,499	49,000,433
Plan fiduciary net position - ending (b)	$ 46,954,793	$ 48,750,196	$ 49,355,499
Net OPEB liability (asset) - ending (a) - (b)	$ 7,589,447	$ 1,447,742	$ (3,751,068)
Plan fiduciary net position as a percentage of the total OPEB liability	86.09%	97.12%	108.23%
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Net OPEB liability (asset) as a percentage of covered employee payroll	32.48%	5.95%	(15.84%)

Notes to Schedule:

* Information not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.

Knoxville Utilities Board
Required Supplementary Information – Schedule of Employer OPEB Contributions
June 30, 2020

	*Year ended June 30 2020	2019	2018
Actuarially determined contribution	$ 311,324	$ -	$ -
Contribution in relation to the annual required contribution	311,324	-	-
Contribution deficiency/(excess)	$ -	$ -	$ -
Covered employee payroll	$ 23,363,536	$ 24,346,735	$ 23,677,080
Contributions as a percentage of covered employee payroll	1.33%	0.00%	0.00%

Notes to Schedule:

Valuation Date:	January 1, 2018 and January 1, 2017
Timing:	Actuarially determined contribution rates are calculated based on the actuarial valuation completed 18 months before the beginning of the fiscal year.

Key methods and assumptions used to determine contribution rates:

Actuarial cost method:	Entry age normal
Asset valuation method:	5-year smoothed market
Amortization method:	Level dollar, 30-year closed period with 18 years remaining as of January 1, 2018 (19 years as of January 1, 2017), or a level dollar, 30-year open period for a negative unfunded liability; As of January 1, 2018, the unfunded liability was negative
Discount rate:	7.5%
Healthcare cost trend rate:	Pre-Medicare: 8% grading down to 4.5% over 20 years as of January 1, 2018; 7.83% to 4.5% over 19 years as of January 1, 2017 Medicare: 7% grading down to 4.5% over 20 years as of January 1, 2018; 6.88% to 4.5% over 19 years as of January 1, 2017 Administrative expenses: 3.0% per year
Salary increases:	From 2.8% to 5.15%, based on years of service
Mortality:	Sex distinct RP-2000 Combined Mortality projected to 2024 using Scale AA
Inflation:	2.8%
Investment rate of return:	7.5%
Retirement age:	2% at ages 50-57 at January 1, 2018 and January 1, 2017, respectively, grading up to 100% at age 70

* Schedule of Employer Contribution information is not reflected prior to 2018 due to changes in actuary methodologies required under GASB 75, which was implemented in 2018.
Please refer to prior year's audited financial statement for prior methods and assumptions.

Knoxville Utilities Board
Required Supplementary Information – Qualified Governmental Excess Benefit Arrangement
Schedule of Changes in Total Pension Liability and Related Ratios
June 30, 2020

	*Year ended December 31			
	2019	2018	2017	2016
Total pension liability				
Service cost	$ -	$ 941	$ 584	$ -
Interest (includes interest on service cost)	9,181	9,676	7,535	-
Changes of benefit terms	(218,272)	-	-	185,077
Differences between expected and actual experience	34	(36,125)	13,684	-
Changes of assumptions	13,342	(22,950)	73,461	-
Benefit payments, including refunds of member contributions	(15,932)	-	-	-
Net change in total pension liability	(211,647)	(48,458)	95,264	185,077
Total pension liability - beginning	231,883	280,341	185,077	-
Total pension liability - ending	$ 20,236	$ 231,883	$ 280,341	$ 185,077
Covered payroll	$ 40,276,197	$ 42,150,040	$ 43,309,374	$ 44,437,747
Total pension liability as a percentage of covered payroll	0.05%	0.55%	0.65%	0.42%

Notes to Schedule:

* There are no assets accumulated in a trust that meet the criteria in paragraph 4 of GASB 73 to pay related benefits.

Knoxville Utilities Board

Supplemental Information - Schedule of Expenditures of Federal Awards and State Financial Assistance

June 30, 2020

Federal Grantor/ Pass-Through Grantor	Program Name	CFDA Number	Pass-Through Entity Identifying Number	Expenditures
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00434	$ 105,150
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00266	$ 18,000
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00446	$ 36,418
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00468	$ 21,653
U.S. Department of Homeland Security through Tennessee Department of Military	Disaster Grants - Public Assistance	97.036	PA-04-TN-4427-PW-00472	$ 60,398
		Total Program 97.036		$ 241,619
		Total Federal Awards		$ 241,619

NOTE 1 - BASIS OF PRESENTATION

The Schedule of Expenditures of Federal Awards and State Financial Assistance includes the federal award related grant activity of Knoxville Utilities Board and is presented on the accrual basis of accounting. The expenditures reported in the Schedule of Expenditures and State Financial Assistance were incurred in fiscal years 2019 and 2020. In accordance with the requirements of CFDA 97.036, the expenditures have been reported in fiscal year 2020 when the grant was approved by the Federal Emergency Management Association. KUB did not elect to use 10% de minimis indirect cost rate.

Crime
Covers losses resulting from employee dishonesty, robbery, burglary, and computer fraud. Limits of coverage - $5,000,000; $250,000 retention.

Directors’ and Officers’ Liability Insurance
Covers KUB personnel appropriately authorized to make decisions on behalf of KUB (including but not limited to Commissioners, President and CEO, Senior Vice Presidents, Vice Presidents, and Directors) for wrongful acts. Limits of coverage - $20,000,000; $500,000 corporate deductible, $0 individual deductible.

Employment Practices Liability
Coverage for costs related to actual or alleged employment practices violations for amounts exceeding specified amount ($500,000). Limits of coverage - $10,000,000.

Fiduciary
Covers losses resulting from wrongful acts related to KUB’s Pension, 401(k), OPEB Trust funds, and Medical Plan. Limits of coverage - $10,000,000; $150,000 deductible.

Pollution Legal Liability
New conditions coverage for losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - $20,000,000.

Property Insurance
This coverage provides protection of KUB’s property for fire, extended coverage, vandalism and malicious mischief, and coverage on boilers and machinery. Also included are flood and earthquake damage and mechanical failure. Limits of coverage - $250,000,000 per occurrence (subject to certain sublimits); $2,500,000 deductible per occurrence.

Travel Accident
Covers losses related to employees’ business travel. Limits of coverage - $1,000,000 aggregate.

Excess Insurance for General Liability
As a government entity, KUB’s liability is limited under the Tennessee Governmental Tort Liability Act (TCA §29-20-403). KUB is self-insured for up to the first $700,000 of any accident and has insurance of $1,000,000 above this retention.

Excess Insurance for Workers’ Compensation
Covers all losses exceeding specified amount per occurrence ($1,000,000). Limits of coverage - Statutory; stop loss coverage applies for aggregate losses over $5,000,000.

Employee Health Plan Stop Loss Coverage
KUB’s employee health plan is self-funded. KUB has purchased stop loss insurance, which covers KUB’s exposure to annual expenses in excess of $575,000 per individual participant.

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Board of Commissioners
Knoxville Utilities Board
Knoxville, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Knoxville Utilities Board (KUB), a component unit of the City of Knoxville, Tennessee, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise KUB's basic financial statements, and have issued our report thereon dated October 29, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered KUB's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of KUB's internal control. Accordingly, we do not express an opinion on the effectiveness of KUB's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of KUB's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether KUB's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of KUB's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering KUB's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Coulter & Justus, P.C.

Knoxville, Tennessee
October 29, 2020

Section I -- Summary of Auditor's Results

Financial Statements

Type of auditors' report issued:	Unmodified
Internal control over financial reporting: Material weakness(es) identified?	No
Significant deficiency(s) identified not considered to be material weaknesses?	None reported
Noncompliance material to financial statements:	No

Section II -- Financial Statement Findings

None reported.

Section III – Findings Required by the State of Tennessee Audit Manual

None reported.

Section IV -- Summary Schedule of Prior Year Audit Findings

2019-01

In July 2018, an employee in the KUB Underground Construction Department in the Wastewater Division used a KUB-owned backhoe to take a front-loader full of asphalt off KUB property for use at his personal residence. The value of the asphalt was estimated at $200. The employee resigned in lieu of termination and the stolen materials were written-off.

2019-02

In November 2018, it was discovered that an employee in the KUB Electrical Engineering Department in the Electric Division had falsified timesheets resulting in $7,907.79 of overpayments for false time reported. The employee resigned in lieu of termination. The employee paid full restitution of $7,907.79 to KUB.

2019-03

In May 2019, it was discovered that an employee in the KUB Gas Engineering Department in the Gas Division had falsified timesheets resulting in $2,740.50 of overpayments for false time reported. The employee resigned in lieu of termination. The employee paid full restitution of $2,740.50 to KUB.

SUMMARY OF CERTAIN PROVISIONS
OF
ELECTRIC BOND RESOLUTION

SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Electric Bond Resolutions, copies of which are available for examination at the offices of the Knoxville Utilities Board (the "Board"). Terms defined in the Electric Bond Resolutions and not defined below or elsewhere in this Official Statement shall have the meaning set forth in the Electric Bond Resolutions. Section numbers refer to sections of Resolution No. 1644, as amended by Resolution No. 2171, Resolution No. 3491, Resolution No. R-317-90, Resolution No. R-422-98, Resolution No. R-149-01, Resolution No. R-332-2010 and Resolution No. R-230-2018, and as supplemented by Resolution No. R-___________ and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

Security

The Series LL-2021 Bonds constitute and, when issued will be Bonds under the Resolution. All Series LL-2021 Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Electric System of the City and are on parity with each other in all respects.

The Series LL-2021 Bonds will be issued pursuant to the Resolution which sets forth in detail covenants of the City with respect to the Series LL-2021 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase electrical power for delivery during or after the end of that fiscal year, and other payments made under any electrical power supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of electrical power, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

(g) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. 1644, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Qualified Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the Resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under Resolution No. 1644 in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poors' Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System. "Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to subparagraph (g) of the definition of Debt Service.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

The term "Bonds" in Resolution No. 1644 shall for all purposes have the same meaning as "Parity Indebtedness" described above unless the context clearly requires otherwise, and notwithstanding any provision of Resolution No. 1644 to the contrary, any Parity Indebtedness issued on a parity of lien under the Resolution, as amended, may be in such form, may be executed in such manner, may be payable upon such terms and upon such dates, may be subject to such registration provisions, may be designated in such manner, may be issued for such purpose and may be issued pursuant to such applicable laws as is provided in the resolution authorizing such Parity Indebtedness.

Pledge of Revenues

The punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

> (a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.
>
> (b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).
>
> In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided above. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely

and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(h) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(i) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

(j) Notwithstanding the foregoing, the Board may deposit any amounts described in subparagraph (g) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.

Additional Indebtedness

The Series LL-2021 Bonds issued pursuant to the Resolution shall be on a parity with the Outstanding Parity Indebtedness, and with all Parity Indebtedness hereafter issued within the terms, limitations and restrictions of the Resolution, as amended.

The City has covenanted that it will incur no indebtedness payable from the revenues of the Electric System and having priority over the Series LL-2021 Bonds.

The following shall apply to the incurrence of additional Parity Indebtedness:

(a) All payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

(i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.

(ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.

(iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purposes under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

(iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

(i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Collection of Revenues

All revenues which will be received by the City from the System shall be deposited in a separate fund, which shall be kept separate and distinct from all other funds of the City, and is designated as the "Electric Fund."

Rate Covenant

The City will fix rates and collect charges for electric energy and the services, facilities and commodities furnished by the System of the City so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the bonds, in addition to pay, as the same shall become due, the necessary expenses or operating and maintaining the System and all other obligations and indebtedness payable out of the Electric Fund, and that such rates and charges shall not be reduced so as to be insufficient to provide revenues for such purposes.

Without limiting the foregoing, the Board will fix rates and collect charges for electric energy and the services, facilities and commodities furnished by the System so that the Net Revenues of the System will be at least sufficient for each Fiscal Year beginning on and after July 1, 2018, computed as of the date such rates and charges are established, to pay the sum of:

> (i) an amount equal to 120% of the Aggregate Debt Service on all Outstanding Parity Indebtedness for such Fiscal Year; and
>
> (ii) certain amounts, if any, required to be paid or deposited during such Fiscal Year relating to any reserve fund deposits, liquidity fees, remarketing agent fees and similar fees, and reimbursements under any Reserve Fund Credit Facility.

Operating and Maintenance

The City will maintain the System in good condition, and will operate the System in an efficient and economical manner, making such expenditures for equipment and for renewals and replacement as may be proper for the economical operation and maintenance thereof.

Discharge and Satisfaction of Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the Series LL-2021 Bonds or Parity Bonds (referred to hereinafter, collectively, in this Section as the "Bonds") in any one or more of the following ways:

> (a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;
>
> (b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency ("as Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or
>
> (c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds, or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of principal of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created or imposed under the Resolution, including the pledge of and lien on the net revenues of the System set forth herein, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registration owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Agent pursuant to this Section nor principal or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal of and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Defeasance Obligations deposited with the Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

Nothing described above shall be construed to alter or change the redemption provisions relating to the Series LL-2021 Bonds. No redemption privilege shall be exercised with respect to the Series LL-2021 Bonds or any Parity Bonds except at the option and election of the Board. The right to redemption set forth in the Resolution shall not be exercised by any Registration Agent or Agent unless expressly directed in writing by an authorized representative of the Board.

Sale of Electric System

The System may be sold, mortgaged, leased or otherwise disposed of only as a whole, or substantially as a whole, and only if the proceeds to be realized shall be sufficient to fully retire all obligations of the System and upon consent by the holders of sixty-five percent (65%) in the aggregate principal amount of the outstanding Bonds (exclusive of issuer-owned Bonds) to be obtained in the manner provided in the Resolution; provided, however, that the City shall have, and reserves the right to sell, lease, or otherwise dispose of any of the property comprising a part of the System determined to be no longer necessary and useful in the operation thereof, which is found, by the Board, or such other body as may be authorized to manage and operate the System, not to be both useful and necessary for the continued operation of the System substantially as it now exists; and, prior to any such sale, lease or other disposition of said property, the Board, or such other body as may be authorized to manage and operate the System shall, by resolution duly adopted, have made said finding and authorized such sale, lease or other disposition of the property. The proceeds from any such property shall be paid into the Renewal and Replacement Fund, but shall not reduce the amount otherwise required to be paid into said fund. Disbursement of such additional payments shall be made in the same manner and for the same purposes as other disbursements from the Renewal and Replacement Fund.

Notwithstanding anything elsewhere provided in the Resolution, and without being subject to any of the foregoing restrictions, the City shall have the right to sell, lease, transfer, or otherwise dispose of the System, as a whole or substantially as a whole, to any municipal corporation, county, political subdivision, governmental corporation, or governmental agency (each of which shall be included within the term "Transferee" as herein used), provided the Transferee thus acquiring the System from the City will assume the performance of and be bound by all of the City's obligations to the holders of the Bonds under the covenants and provisions of the Resolution, as amended.

Insurance

The City will carry adequate fire and windstorm insurance on buildings and contents of buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately or municipally owned and doing a similar business in territory contiguous to the City. Proceeds from any insurance policies, except public liability, shall be paid into the Renewal and Replacement Fund which payments shall not reduce the amount otherwise required to be paid into said fund. Disbursements of such proceeds of insurance shall be made in the same manner and for the same purposes as other disbursements from the Renewal and Replacement Fund.

Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to security holders the balance sheet and the profit and loss statement of the System as certified by such accountants.

Appointment of Receiver

Any holder of the Bonds, including a trustee or trustees for such holders shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of the Resolution and as the court shall direct.

Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution as described above, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness as described above shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, and whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

Separate Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate electric transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating electric distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Combined Systems

Notwithstanding anything provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board’s utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created hereunder from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Advisor, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

APPENDIX H

SUMMARY OF CERTAIN PROVISIONS
OF
GAS BOND RESOLUTION

SUMMARY OF CERTAIN PROVISIONS OF THE GAS BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Gas Bond Resolutions, copies of which are available for examination at the offices of the Knoxville Utilities Board (the "Board"). Terms defined in the Gas Bond Resolutions and not defined below or elsewhere in this Official Statement shall have the meanings set forth in the Gas Bond Resolutions. Section numbers refer to sections of Resolution No. R-25-88, as amended by Resolution No. R-22-97, Resolution No. R-421-98, Resolution No. R-150-01, Resolution No. R-333-2010 and Resolution No. R-229-2018 and as supplemented by Resolution No. R-__________________ and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

Security

The Series AA-2021 Bonds constitute and, when issued, will be Bonds under the Resolution. All Series AA-2021 Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Gas System of the City and are on parity with each other in all respects.

The Series AA-2021 Bonds will be issued pursuant to the Resolution which sets forth in detail covenants of the City with respect to the Series AA-2021 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase gas for delivery during or after the end of that fiscal year, and other payments made under any gas supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of gas, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

(g) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. R-25-88, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Qualified Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System. "Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to the subparagraph (G) of the definition of Debt Service.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

Pledge of Revenues

The Bonds issued under and pursuant to the Resolution provides that the punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

Additional Indebtedness

The Series AA-2021 Bonds are issued in compliance with the Resolution so as to be on a parity with the Outstanding Parity Indebtedness, and, when duly delivered, the Series AA-2021 Bonds shall constitute a series of Parity Indebtedness issued under the authority of the Resolution.

The City has covenanted that it will incur no indebtedness payable from the revenues of the Gas System having priority over the Series AA-2021 Bonds.

No additional indebtedness (herein called the "Parity Indebtedness") payable out of the Revenue Fund shall be created unless:

(a) All payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the Net Revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

> (i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.
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> (ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.
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> (iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purposes under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.
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> (iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

> (i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Collection and Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.

(b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date.

Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided above. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used to pay principal of and interest on (including reasonable reserves therefor) any bonds, notes or obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness and then for the purpose of the payment of liquidity fees, remarketing agent fees and similar fees that are payable in connection with bonds, notes or other obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness.

(h) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(i) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(j) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

(k) Notwithstanding the foregoing, the Board may deposit any amounts described in the subparagraph (g) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.

Rate Covenant

The City shall maintain the System in good condition and will operate the System in an efficient and economical manner, and the City will fix rates and collect charges for gas and for the services, facilities and commodities furnished by the System so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds, in addition to paying as the same shall become due the necessary expenses of operating and maintaining the System and all other obligations and indebtedness that are payable out of the revenues of the System, which obligations and indebtedness are a charge against said revenues equally and ratably with the charge of the Bonds.

Without limiting the foregoing, the Board will fix rates and collect charges for gas and the services, facilities and commodities furnished by the System so that the Net Revenues of the System will be at least sufficient for each Fiscal Year beginning on and after July 1, 2018, computed as of the date such rates and charges are established, to pay the sum of:

> (i) an amount equal to 120% of the Aggregate Debt Service on all Outstanding Parity Indebtedness for such Fiscal Year; and
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> (ii) certain amounts, if any, required to be paid or deposited during such Fiscal Year relating to any reserve fund deposits, liquidity fees, remarketing agent fees and similar fees, and reimbursements under any Reserve Fund Credit Facility.

Discharge and Satisfaction of the Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the Series AA-2021 Bonds (referred to hereinafter collectively in this Section as the "Bonds") in any one or more of the following ways:

(a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;

(b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency (an "Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or

(c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of principal of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created or imposed hereunder, including the pledge of and lien on the Net Revenues of the System set forth herein, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registered owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Registration Agent nor principal or interest payments on any of such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on any such Defeasance Obligations deposited with the Registration Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee Law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

No redemption privilege shall be exercised with respect to the Series AA-2021 Bonds or any Parity Bonds except at the option and election of the Board. The right of redemption set forth herein shall not be exercised by any Registration Agent or Agent unless expressly directed in writing by an authorized representative of the Board.

Sale of Gas System

Except as expressly authorized by the Resolution, the City shall not sell, mortgage, lease or otherwise dispose of the System or any substantial part thereof, unless consent to such transaction is given by the holders of at least sixty-five per centum (65%) in the aggregate principal amount of the outstanding Bonds (exclusive of issuer-owned Bonds). However, the City shall have, and reserves the right to sell, lease or otherwise dispose of any of the property comprising a part of the System determined to be no longer necessary and useful in the operation thereof, which is found, by the Board, or such other body as may be authorized to manage and operate the System, not to be both useful and necessary for the continued operation of the System substantially as it now exists; and prior to any such sale, lease or other disposition of said property, the Board, or such other body as may be hereafter authorized to manage and operate the System, shall by resolution duly adopted, have made said finding and authorized such sale, lease or other disposition of the property. Also, the City shall have the right to sell, lease, transfer or otherwise dispose of the System as a whole or substantially as a whole, to any municipal corporation, county, political subdivision, governmental corporation or governmental agency (each of which shall be included within the term "Transferee" as used herein), provided the Transferee thus acquiring the system from the City will assume the performance of and be bound by all of the City's obligations to the holders of the Bonds to make the payments into the Gas Bond Fund and to pay the principal of and interest on the Bonds as provided in the covenants and provisions of the Resolution.

Insurance

Except to the extent that the Board reasonably determines that it is economically advisable to carry such risks, the City will carry adequate fire and windstorm insurance on buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately or municipally owned and doing a similar business in Tennessee or adjacent states.

Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to Bondholders the balance sheet and the profit and loss statement of the System as certified by such accountants.

Appointment of Receiver

Any holder or holders of not less than twenty-five percent (25%) of the Bonds, including a trustee or trustees for such holders, shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds which default shall continue for a period of thirty days, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of the Resolution and as the court shall direct.

Separate Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate gas transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating gas distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Combined Systems

Notwithstanding anything elsewhere in the Resolution, nothing contained therein shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution as provided in the Resolution, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding under the Resolution and whether the holders of a sufficient percentage in aggregate principal amount of

Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

APPENDIX I

SUMMARY OF CERTAIN PROVISIONS
OF
WATER BOND RESOLUTION

SUMMARY OF CERTAIN PROVISIONS OF THE WATER BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Water Bond Resolutions, copies of which are available for examination at the offices of the Knoxville Utilities Board (the "Board"). Terms defined in the Water Bond Resolutions and not defined elsewhere in this Official Statement shall have the meaning set forth in the Water Bond Resolutions. Section numbers refer to sections of Resolution No. 2075, as amended by Resolution No. 3633, Resolution No. R-26-88, Resolution No. R-8-98, Resolution No. R-151-01 and Resolution R-228-2018, and as supplemented by Resolution No. R-_____________ and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

Security

The LL-2021 Bonds constitute and, when issued, will be Bonds under the Resolution. All LL-2021 Bonds are limited obligations of the City, payable solely and ratably from the Net Revenues of the Water System of the City and are on parity with each other in all respects.

The LL-2021 Bonds will be issued pursuant to the provision of the Resolution which sets forth in detail covenants of the City with respect to the LL-2021 Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to the Resolution, copies of which may be examined at the office of the Board.

Pledge of Revenues

The Bonds issued under and pursuant to the Resolution shall not be general obligations of the City, and no holder of any Bond issued under the Resolution shall ever have the right to compel any exercise of taxing power of the City to pay said Bonds or the interest thereon. The punctual payment of principal and premium, if any, and interest on all Parity Indebtedness and Hedge Payments with respect to Parity Indebtedness shall be payable from and secured equally and ratably by the Net Revenues of the System, without priority by reason of number or time of sale or execution or delivery and such Net Revenues are irrevocably pledged to the punctual payment of such principal, premium, interest and Hedge Payments as the same become due.

Certain Definitions

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Current Operating Expenses" shall include but not be limited to, expenses for ordinary repairs, removals and replacements of the System, salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses (including legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting or technical services not funded with proceeds of indebtedness), insurance expenses, taxes and other governmental charges, the imposition or amount of which is not subject to control of the Board or the City, any payments made by the Board during any fiscal year to purchase water for delivery during or after the end of that fiscal year, and other payments made under any water supply contract, and any principal or interest payments made by the Board during any fiscal year on bonds, notes or other obligations, including loan agreements, issued or entered into for the purpose of financing the purchase of water, and to the extent so provided by the resolution authorizing such bonds, notes or obligations and to the extent not inconsistent with generally accepted accounting principles. Current Operating Expenses do not include depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, interest charges and charges for the payment of principal or amortization of bonded or other indebtedness of the Board or the City, on behalf of the Board, payable from revenues of the System, costs or charges made therefor, capital additions, replacements, betterments, extensions or improvements to or retirement from the System which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and do not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of the System, nor such property items, including taxes and fuels, which are capitalized pursuant to the then existing accounting practices of the Board or expenses of a system that is merged into the System, as permitted hereunder, if revenues of the merged system are not included in Revenues at the election of the Board. If the Board operates its utilities as a Combined System, as defined herein, Current Operating Expenses shall be deemed to refer to the Current Operating Expenses of the Combined System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(a) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(b) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(c) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(d) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(e) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(f) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period beginning July 1 of each year and ending June 30 of the following year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. 2075, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean Revenues, excluding any profits or losses on the sale or other disposition, not in the ordinary course of business, of investments or fixed or capital assets, less Current Operating Expenses.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Revenues" shall mean all revenues, rentals, earnings and income of the System from whatever source, determined in accordance with generally accepted accounting principles, including all revenues derived from the operation of the System; proceeds from the sale of property; proceeds of insurance and condemnation awards and compensation for damages, to the extent not applied to the payment of the cost of repairs, replacements and improvements; and all amounts realized from the investment of money in the accounts and funds of the System (excluding any investment earnings from construction or improvement funds created for the deposit of bond, note, or loan agreement proceeds pending use, to the extent such income is applied to the purposes for which the bonds, notes or loan agreement were issued, and funds created to refund any outstanding obligations payable from Revenues of the System) and at the election of the Board, shall not include any rates, fees, rentals or other charges or other income received by the Board from the operation of a Merged System.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

The term "Bonds" in Resolution No. 2075 shall for all purposes have the same meaning as "Parity Indebtedness" described above unless the context clearly requires otherwise, and notwithstanding any provision of Resolution No. 2075 to the contrary, any Parity Indebtedness issued on a parity of lien under Resolution No. 2075, as amended, may be in such form, may be executed in such manner, may be payable upon such terms and upon such dates, may be subject to such registration provisions, may be designated in such manner, may be issued for such purpose and may be issued pursuant to such applicable laws as is provided in the resolution authorizing such Parity Indebtedness.

Additional Indebtedness

The LL-2021 Bonds issued pursuant to the Resolution shall be on a parity with the Outstanding Parity Indebtedness, and with all Parity Indebtedness hereafter issued within the terms, limitations and restrictions of the Resolution, as amended.

The City has covenanted that it will not incur any other obligations or indebtedness payable from the revenues of the System which will have priority, with respect to the payment of principal or interest out of the Water Fund, over the LL-2021 Bonds.

The following shall apply to the incurrence of additional Parity Indebtedness:

(a) Provided that all payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

> (i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.
>
> (ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.
>
> (iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.
>
> (iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

> (i) In calculating Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating projected Net Revenues for any period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Collection of Revenues and Disposition of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Current Operating Expenses.

(b) The money remaining in the Revenue Fund, after payment of Current Operating Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth herein or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date.

Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided in the Resolution. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used to pay principal of and interest on (including reasonable reserves therefor) any bonds, notes or obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness and then for the purpose of the payment of liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with bonds, notes or other obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness.

(h) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(i) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(j) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

Rate Covenant

The City shall maintain the System in good condition and will operate the System in an efficient and economical manner, and the City will fix rates and collect charges for water and for the services, facilities and commodities furnished by the System so as to provide revenues sufficient to pay, as the same shall become due, the principal of and interest on the Bonds, in addition to paying as the same shall become due the necessary expenses of operating and maintaining the System and all other obligations and indebtedness that are payable out of the revenues of the System, which obligations and indebtedness are a charge against said revenues equally and ratably with the charge of the Bonds.

Without limiting the foregoing, the Board will fix rates and collect charges for water and the services, facilities and commodities furnished by the System so that the Net Revenues of the System will be at least sufficient for each Fiscal Year beginning on and after July 1, 2018, computed as of the date such rates and charges are established, to pay the sum of:

(i) an amount equal to 120% of the Aggregate Debt Service on all Outstanding Parity Indebtedness for such Fiscal Year; and

(ii) certain amounts, if any, required to be paid or deposited during such Fiscal Year relating to any reserve fund deposits, liquidity fees, remarketing agent fees and similar fees, and reimbursements under any Reserve Fund Credit Facility.

Discharge and Satisfaction of Bonds

If the Board, on behalf of the City, shall pay and discharge the indebtedness evidenced by any of the LL-2021 Bonds (referred to hereinafter, collectively, as the "Bonds") in any one or more of the following ways:

(a) By paying or causing to be paid, by deposit of sufficient funds as and when required with the Registration Agent, the principal of and interest on such Bonds as and when the same become due and payable;

(b) By depositing or causing to be deposited with any financial institution which has trust powers and which is regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency ("an Agent"; which Agent may be the Registration Agent), in trust or escrow, on or before the date of maturity or redemption, sufficient money or Defeasance Obligations, the principal of and interest on which, when due and payable, will provide sufficient moneys to pay or redeem such Bonds and to pay premium, if any, and interest thereon when due until the maturity or redemption date (provided, if such Bonds are to be redeemed prior to maturity thereof, proper notice of such redemption shall have been given or adequate provision shall have been made for the giving of such notice); or

(c) By delivering such Bonds to the Registration Agent, for cancellation by it;

and if the Board, on behalf of the City, shall also pay or cause to be paid all other sums payable under the Resolution by the Board or the City with respect to such Bonds or make adequate provision therefor, and by resolution of the Board instruct any such Agent to pay amounts when and as required to the Registration Agent for the payment of principal of and interest and redemption premiums, if any, on such Bonds when due, then and in that case the indebtedness evidenced by such Bonds shall be discharged and satisfied and all covenants, liens, pledges, agreements and obligations entered into, created, or imposed under the Resolution, including the pledge of and lien on the net earnings of the System set forth in the Resolution, shall be fully discharged and satisfied with respect to such Bonds and the owners thereof and shall thereupon cease, terminate and become void.

If the Board, on behalf of the City, shall pay and discharge or cause to be paid and discharged the indebtedness evidenced by any of the Bonds in the manner provided in either clause (a) or clause (b) above, then the registered owners thereof shall thereafter be entitled only to payment out of the money or Defeasance Obligations deposited as aforesaid.

Except as otherwise provided in the Resolution, neither Defeasance Obligations nor moneys deposited with the Agent nor principal or interest payments on any such Defeasance Obligations shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal of and premium, if any, and interest on said Bonds; provided that any cash received from such principal or interest payments on such Defeasance Obligations deposited with the Agent, (A) to the extent such cash will not be required at any time for such purpose, shall be paid over to the Board as received by the Agent and (B) to the extent such cash will be required for such purpose at a later date, shall, to the extent practicable, be reinvested in Defeasance Obligations maturing at times and in amounts sufficient to pay when due the principal and premium, if any, and interest to become due on said Bonds on or prior to such redemption date or maturity date thereof, as the case may be, and interest earned from such reinvestments, to the extent not needed for the payment of such principal, premium and interest, shall be paid over to the Board, as received by the Agent. For the purposes described herein, Defeasance Obligations shall mean direct obligations of, or obligations, the principal of and interest on which are guaranteed by, the United States of America, or any agency thereof, obligations of any agency or instrumentality of the United States or any other obligations at the time of the purchase thereof are permitted investments under Tennessee law for the purposes described in this Section, which bonds or other obligations shall not be subject to redemption prior to their maturity other than at the option of the registered owner thereof.

Nothing described above shall be construed to alter or change the redemption provisions relating to the LL-2021 Bonds. No redemption privilege shall be exercised with respect to the LL-2021 Bonds or any Parity Bonds except at the option and election of the Board. The right of redemption set forth in the Resolution shall not be exercised by any Registration Agent or Agent unless expressly so directed in writing by an authorized representative of the Board.

Sale of System

Except as expressly authorized by the Resolution, the City shall not sell, mortgage, lease or otherwise dispose of the System or any substantial-part thereof. However, the City shall have, and reserves the right to sell, lease or otherwise dispose of any of the property comprising a part of the System determined to be no longer necessary and useful in the operation thereof, which is found, by the Board, or such other body as may be authorized to manage and operate the System, not to be both useful and necessary for the continued operation of the System substantially as it now exists; and prior to any such sale, lease or other disposition of said property, the Board, or such other body as may be hereafter authorized to manage and operate the System, shall by resolution duly adopted, have made said finding and authorized such sale, lease or other disposition of the property. Also, the City shall have the right to sell, lease, transfer or otherwise dispose of the System as a whole or substantially as a whole, to any municipal corporation, county, political subdivision, governmental corporation or governmental agency (each of which shall be included within the term “Transferee” as herein used), provided the Transferee thus acquiring the System from the City will assume the performance of and be bound by all of the City's obligations to the holders of the Bonds under the covenants and provisions of the Resolution.

Insurance

The City will carry adequate fire and windstorm insurance on buildings and contents of buildings of the System and provide for adequate public liability insurance, and the City will also carry such other insurance as is ordinarily carried by utility companies privately owned or municipally owned and doing a similar business in territory contiguous to the City.

Audits

The City will cause proper books and accounts adapted to the System to be kept and will cause the books and accounts with respect to the System to be audited annually by an independent firm of certified public accountants, and will make generally available to security holders the balance sheet and the profit and loss statement of the System as certified by such accountants.

Appointment of Receiver

The holder or holders of not less than twenty-five percent (25%) of the Bonds then outstanding, including a trustee or trustees for such holders, shall, in addition to all other remedies and rights of holders of any of the Bonds, have the right, by appropriate proceedings in any court of competent jurisdiction, in the event of default in the payment of the principal of or interest on the Bonds which default shall continue for a period of thirty days, to obtain the appointment of a receiver for the System, which receiver may enter upon and take possession of the System, operate and maintain the System, fix rates and collect all revenues arising therefrom in as full a manner and to the same extent as the City itself might do. The receiver shall deposit all moneys collected by him in a separate account or accounts and shall dispose of such revenues in accordance with the terms and conditions of this resolution and as the court shall direct.

Combined Systems

Notwithstanding anything provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the

Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Separate or Merged Systems

Nothing contained in the Resolution shall prevent the Board from acquiring a separate water transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating water distribution systems are authorized to own, operate or finance, and nothing herein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

(a) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or

(b) to make any Parity Indebtedness redeemable other than in accordance with its terms; or

(c) to create a preference or priority of any Parity Indebtedness over any other Parity Indebtedness; or

(d) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution under the provisions described above, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness pursuant to the provisions described above, shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, and whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

APPENDIX J

SUMMARY OF CERTAIN PROVISIONS
OF
WASTEWATER BOND RESOLUTION

SUMMARY OF CERTAIN PROVISIONS
OF THE WASTEWATER SYSTEM BOND RESOLUTIONS

The following statements are brief summaries of certain provisions of the Wastewater Bond Resolutions, copies of which are available for examination at the offices of the Knoxville Utilities Board (the "Board"). Terms defined in the Wastewater Bond Resolutions and not defined elsewhere in this Official Statement shall have the meaning set forth in the Wastewater Bond Resolutions. Section numbers refer to sections of Resolution No. R- 129-90, as amended by Resolution No. R-5-98, Resolution No. R-148-01 and Resolution No. 11-S, and as supplemented by Resolution No. R-____________ and as otherwise supplemented prior to the date hereof (collectively, the "Resolution").

Security

The Series 2021A Bonds constitute and, when issued, will be Bonds under the Resolution. All Series 2021A Bonds are limited obligations of the City, payable solely and ratably from the net revenues of the Wastewater System of the City and are on parity with each other in all respects.

The Series 2021A Bonds will be issued pursuant to the Resolution, which sets forth in detail the terms and covenants of the City with respect to the Series 2021A Bonds. The following summary is a brief outline of certain provisions contained in the Resolution and is not to be considered as a full statement thereof. This summary is qualified by reference to and is subject to said resolution, copies of which may be examined at the office of the Board.

Certain Definitions

The following are definitions in summary form of certain terms contained in the Resolution and used herein:

"Accreted Value" shall mean, with respect to any Capital Appreciation Debt, an amount equal to the principal amount of such Capital Appreciation Debt (determined on the basis of the principal amount per $5,000 at maturity thereof) plus the amount assuming semi-annual compounding of earnings which would be produced on the investment of such principal amount, beginning on the dated date of such Capital Appreciation Debt and ending at the date such Accreted Value is calculated, at a yield which, if produced until maturity, will produce $5,000 at maturity. As of any Valuation Date, the Accreted Value of any Capital Appreciation Debt shall mean the amount set forth for such date in the resolution authorizing such Capital Appreciation Debt, which amount shall be required to be determined in the manner described above, and as of any date other than a Valuation Date, the sum of (a) the Accreted Value on the preceding Valuation Date and (b) the product of (1) a fraction, the numerator of which is the number of days having elapsed from the preceding Valuation Date and the denominator of which is the number of days from such preceding Valuation Date to the next succeeding Valuation Date and (2) the difference between the Accreted Values for such Valuation Dates.

"Aggregate Debt Service" for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all indebtedness with respect to which such calculation is required to be made for such period.

"Balloon Date" shall mean any maturity date for Balloon Indebtedness in a Balloon Year.

"Balloon Indebtedness" shall mean any bonds, notes or other indebtedness of the Board or the City, on behalf of the Board, other than Short-Term Indebtedness, twenty-five percent or more of the initial principal amount of which matures (or must be redeemed at the option of the holder) during any twelve month period, if such twenty-five percent or more is not to be amortized to below twenty-five percent by mandatory redemption prior to the beginning of such twelve month period.

"Balloon Year" shall mean any 12-month period in which more than 25% of the original principal amount of related Balloon Indebtedness matures or is subject to mandatory redemption by the Authority.

"Bondholder" shall mean the registered owner of any Bond which at the time shall be registered other than to bearer, or such holders' duly authorized attorney in fact, representative or assigns.

"Bondholders' Committee" shall mean a committee elected by the Bondholders to exercise certain rights upon the occurrence of an Event of Default pursuant to the Resolution.

"Bonds" shall mean Wastewater System Revenue Bonds issued from time to time pursuant to and under the authority of the Resolution and shall for all purposes have the same meaning as "Parity Indebtedness" unless the context clearly requires otherwise.

"Capital Appreciation Debt" shall mean any bonds, notes or other indebtedness of the Board or of the City on behalf of the Board as to which interest is payable only at the maturity or prior redemption of such bonds.

"Commitment," when used with respect to Balloon Indebtedness, shall mean a binding written commitment from a financial institution, surety, or insurance company to refinance such Balloon Indebtedness on or prior to any Balloon Date thereof.

"Consulting Engineer" shall mean (i) an engineering firm or individual engineer employed by the Board with substantial experience in advising utilities similar to the System operated by the Board as to the construction and maintenance of the System and in the projection of relative costs of expansion in the System or (ii) an engineer or engineers who are employees of the Board whose reports or projections are certified by a financial advisor with substantial experience in advising utilities similar to the System.

"Debt Service" for any period shall mean, as of any date of calculation and with respect to the indebtedness with respect to which such calculation is being made, an amount equal to (i) the interest accruing during such period on such indebtedness plus (ii) the portion of each Principal Installment which would accrue during such period if such Principal Installment were deemed to accrue periodically in equal amounts from the next preceding Principal Installment due date for such indebtedness (or, if there shall be no such preceding Principal Installment due date, from a date of issuance of the indebtedness). For purposes of this definition:

(A) The principal and interest portions of the Accreted Value of Capital Appreciation Debt becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments in such manner and during such period of time as is specified in the resolution authorizing such Capital Appreciation Debt.

(B) The annual principal and interest requirement on Short-Term Indebtedness shall be calculated as that amount necessary to amortize the Short-Term Indebtedness from the date it was issued over twenty (20) years in twenty (20) approximately equal annual payments of principal and interest using an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term).

(C) With respect to any Variable Rate Indebtedness, including Hedged Indebtedness if the interest thereon calculated as set forth below is expected to vary, the interest coming due in any specified future period shall be determined as if the interest rate in effect at all times during such future period was, at the option of the Board, either (1) the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period), or (2) the current average annual fixed rate of interest on securities of similar quality having a similar maturity date as certified by a Financial Advisor.

(D) With respect to any Hedged Indebtedness, the interest on such Hedged Indebtedness during any Hedge Period and for so long as the provider of the related Hedge Agreement has not defaulted on its payment obligations thereunder shall be calculated by adding (x) the amount of interest payable by the City or the Board on such Hedged Indebtedness pursuant to its terms and (y) the amount of Hedge Payments payable by the City or the Board under the related Hedge Agreement and subtracting (z) the amount of Hedge Receipts payable by the provider of the related Hedge Agreement at the rate specified in the related Hedge Agreement; provided, however, that to the extent that the provider of any Hedge Agreement is in default thereunder, the amount of interest payable by the City or the Board on the related Hedged Indebtedness shall be the interest calculated as if such Hedge Agreement had not been executed. In determining the amount of Hedge Payments or Hedge Receipts that are not fixed throughout the Hedge Period (i.e., which are variable), payable or receivable for any future period, such Hedge Payments or Receipts for any period of calculation (the "Determination Period") shall be computed by assuming that the variables comprising the calculation (e.g., indices) applicable to the Determination Period are equal to the average of the actual variables which were in effect (weighted according to the length of the period during which each such variable was in effect) for the most recent 12-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a 12-month period).

(E) With respect to Balloon Indebtedness (1) which is subject to a Commitment or (2) which does not have a Balloon Year commencing within 12 months from the date of calculation, such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of 20 years from the date of issuance at an assumed interest rate (which shall be the interest rate as of the date of issuance or the date of calculation, whichever is less, certified by a Financial Advisor to be the interest rate at which the City on behalf of the Board could reasonably expect to borrow the same amount by issuing indebtedness with the same priority of lien as such Balloon Indebtedness and with a 20-year term); provided, however, that if the maturity of such Balloon Indebtedness (taking into account the term of any Commitment) is in excess of 20 years from the date of issuance, then such Balloon Indebtedness shall be assumed to be amortized in substantially equal annual amounts to be paid for principal and interest over an assumed amortization period of years equal to the number of years from the date of issuance of such Balloon Indebtedness to maturity (including the Commitment) and at the interest rate provided above. For the purpose of calculating the Debt Service Requirement on Balloon Indebtedness (a) which are not subject to a Commitment and (b) which have a Balloon Year commencing within 12 months from the date of calculation, the principal payable on such Balloon Indebtedness during the Balloon Year shall be calculated as if paid on the Balloon Date.

(F) The principal of and interest on Parity Indebtedness and Hedge Payments shall be excluded from the determination of Debt Service to the extent that the same were or are expected to be paid with amounts on deposit on the date of calculation (or proceeds of indebtedness to be deposited on the date of issuance of any proposed Parity Indebtedness) in a fund established for such purpose.

(G) In calculating the Debt Service on any Parity Indebtedness or proposed Parity Indebtedness with respect to which the federal government or any agency thereof is or is expected to be obligated to make tax refunds or other payments to the City or the Board for the purpose of reducing the interest costs associated therewith, the Board may offset any stated interest payment on such Parity Indebtedness or proposed Parity Indebtedness by the amount of the scheduled tax refund or other payment corresponding thereto..

"Debt Service Fund" shall mean the Debt Service Fund created as described herein.

"Financial Advisor" shall mean an investment banking or financial advisory firm or commercial bank who or which is retained by the Board for the purpose of passing on questions relating to the availability and terms of specified types of indebtedness and is actively engaged in and, in the good faith opinion of the Board, has a favorable reputation for skill and experience in underwriting or providing financial advisory services in respect of similar types of securities.

"Fiscal Year" shall mean the twelve month period established by the Board as its fiscal year, and which, as of the date of the adoption of the Resolution, is the twelve month period commencing on July 1 of any calendar year and ending on June 30 of the following calendar year.

"Hedge Agreement" shall mean, without limitation, (i) any contract known as or referred to or which performs the function of an interest rate swap agreement, currency swap agreement, forward payment conversion agreement, or futures contract; (ii) any contract providing for payments based on levels of, or changes or differences in, interest rates, currency exchange rates, or stock or other indices; (iii) any contract to exchange cash flows or payments or series of payments; (iv) any type of contract called, or designed to perform the function of, interest rate floors, collars, or caps, options, puts, or calls, to hedge or minimize any type of financial risk, including, without limitation, payment, currency, rate, or other financial risk; and (v) any other type of contract or arrangement that the Board determines is to be used, or is intended to be used, to manage or reduce the cost of any indebtedness or other obligations, to convert any element of any indebtedness or other obligations from one form to another, to maximize or increase investment return, to minimize investment return risk, or to protect against any type of financial risk or uncertainty. A Hedge Agreement shall not include any commodity hedge agreement or similar arrangement. For purposes of Resolution No. R-129-90, as amended, a Hedge Agreement shall be deemed not to have any principal amount for purposes of obtaining consents or approvals of holders of Parity Indebtedness or for otherwise determining the amount of Outstanding Parity Indebtedness.

"Hedged Indebtedness" shall mean any indebtedness or other obligation for which the Board or the City, on behalf of the Board, shall have entered into a Hedge Agreement.

"Hedge Payments" shall mean amounts payable by the Board or the City, on behalf of the Board, pursuant to any Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Hedge Period" shall mean the period during which a Hedged Agreement is in effect.

"Hedge Receipts" shall mean amounts payable by any provider of a Hedge Agreement pursuant to such Hedge Agreement, other than termination payments, fees, expenses, and indemnity payments.

"Investment Securities" shall mean any of the following, if and to the extent that the same are legal for the investment of funds of the City and the Board:

(i) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America;

(ii) bonds, debentures, notes, participation certificates or other evidences of indebtedness issued or guaranteed by Bank for Cooperatives; Federal Intermediate Credit Bank; Federal Home Loan Bank System; Export-Import Bank of the United States Federal Land Banks; Federal National Mortgage Association; United States Postal Service; Government National Mortgage Association; Federal Financing Bank; Farmers Home Administration; Federal Home Loan Mortgage Association or any agency or instrumentality of the United States of America or any other corporation wholly-owned by the United States of America;

(iii) Public Housing Bonds issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a pledge of annual contributions under an annual contributions contract or contracts with the United States of America or any agency thereof; or Project Notes issued by public agencies or municipalities and fully secured as to the payment of both principal and interest by a requisition or payment agreement with the United States of America or any agency thereof;

(iv) direct and general obligations, to the payment of the principal of and interest on which the full faith and credit of the issuer is pledged, of any of the following: any state of the United States, or any political subdivision of any such state; provided that (a) as to such obligations of a political subdivision, all the taxable real property within such political subdivision shall be subject to taxation thereby to pay such obligations and the interest thereon, without limitation as to rate or amount, and (b) at the time of their purchase under the Resolution, such obligations of any such state or political subdivision are rated in either of the two highest rating categories by two nationally recognized bond rating agencies;

(v) bank time deposits evidenced by certificates of deposit and banker's acceptances issued by any bank, trust company or savings and loan association which is a member of the Federal Deposit Insurance Corporation, provided that such time deposits and bankers' acceptances (a) do not exceed at any one time in the aggregate five percent (5 %) of the total of the capital and surplus of such bank or trust company, or (b) are secured by obligations described in items (i) or (ii) of the definition of Investment Securities, which such obligations at all times have a market value (exclusive of accrued interest) at least equal to such time deposits so secured and, which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party as the agent solely of, or in trust solely for the benefit of, the Board;

(vi) repurchase agreements with any bank or trust company or savings and loan association which is a member of the Federal Deposit Insurance Corporation, which such agreements are secured by securities which are obligations described in items (i) or (ii) of this definition of Investment Securities provided that each such repurchase agreement (A) is in commercially reasonable form and is for a commercially reasonable period, and (B) results in transfer to the Board of legal title to, or the grant to the Board of a prior perfected security interest in, identified securities referred to in items (i) or (ii) above which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party (other than the repurchaser) as the agent solely of, or in trust solely for the benefit of, the Board; provided that such securities acquired pursuant to such repurchase agreements shall be valued at the lower of the then current market value of such securities or the repurchase price thereof set forth in the applicable repurchase agreement; and

(vii) deposits in the State of Tennessee Local Government Investment Pool created under Chapter 4, Title 9, Tennessee Code Annotated.

"Maximum Annual Aggregate Debt Service" shall mean the maximum Aggregate Debt Service in the Fiscal Year during which such calculation is made or any future Fiscal Year.

"Net Revenues" shall mean the Revenues after deducting the Operation and Maintenance Expenses.

"Operation and Maintenance Expenses" shall mean the costs and expenses of operating and maintaining the Wastewater System, including, without limiting the generality of the foregoing, (i) all expenses includable in the operation and maintenance expense accounts of the Board relating to the Wastewater System according to generally accepted accounting principles, exclusive of depreciation and amortization of property values or losses, and excluding any payments in-lieu-of taxes to the City or other taxing jurisdictions in the State of Tennessee and (ii) to the extent not included in the preceding clause (i) or paid from bond proceeds or otherwise, the Board's share of the costs and expenses of operating and maintaining any plants and properties jointly owned with others.

"Original Bonds" shall mean the outstanding bonds, as referred to in the definition of Original Resolution.

"Original Resolution" means the resolutions authorizing the issuance of the City's Sewer Revenue - General Obligation Bonds, Series M, dated April 1, 1977, as amended, and the resolutions supplemental thereto.

"Outstanding Parity Indebtedness" shall mean any Parity Indebtedness that is outstanding under the resolution or other document under which such Parity Indebtedness is issued.

"Parity Indebtedness" shall mean bonds, notes, loan agreements, and other debt obligations, including Balloon Indebtedness, Short-Term Indebtedness, Variable Rate Indebtedness and Hedge Agreements (but only to the extent of Hedge Payments), issued by or entered into by the Board or by the City on behalf of the Board on a parity of lien under the Resolution in accordance with the restrictive provisions of the Resolution described herein, including any bonds, notes, loan agreements or other obligations secured by a pledge of and/or lien on a Merged System (as defined herein) and the revenues derived from the operation of such Merged System, as defined herein, (provided such pledge and lien are subject only to normal and customary expenses of operating, maintaining, repairing and insuring any such System), so long as the Merged System is not being operated separately from the System as is permitted herein.

"Principal Installment" shall mean, as of the date of calculation and with respect to the indebtedness with respect to which the calculation is being made, (i) the principal amount of the indebtedness due on a certain future date for which no Sinking Fund Installments have been established, (ii) Sinking Fund Installment due on a certain future date for such indebtedness and (iii) if such future dates coincide, the sum of such principal amount and any such Sinking Fund Installment.

"Qualified Hedge Provider" shall mean an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, or whose payment obligations under the related Hedge Agreement are absolutely and unconditionally guaranteed or insured or collateralized by an entity whose senior unsecured long term obligations, financial program rating, counterparty rating, or claims paying ability, are rated either (i) at least as high as "A" or better by Standard & Poor's Rating Group (or any successor thereto) ("S&P") or "A2" or better by Moody's Investors Services, Inc. (or any successor thereto) ("Moody's") (the "Initial Rating Requirement") and such entity maintains a rating on its debt or claims paying ability of not less than "A-" from S&P or "A3" from Moody's (the "Minimum Rating Requirement"); provided that this requirement shall be deemed to have been met, even if the rating of such entity is reduced below the Minimum Rating Requirement, if such entity is replaced with an entity meeting the Initial Rating Requirement within twenty business days from when the Board receives notice that the Minimum Rating Requirement has not been met. An entity's status as a Qualified Hedge Provider is made as of the time the applicable calculation is made.

"Refunded Municipal Obligations" means obligations of any state, the District of Columbia or possession of the United States or any political subdivision thereof which obligations are rated in the highest rating category by Moody's Investors Service and Standard & Poor's Corporation and provision for the payment of the principal of and interest on which shall have been made by deposit with a trustee or escrow agent of direct obligations of the United States of America, which are held by a bank or trust company organized and existing under the laws of the United States of America or any state, the District of Columbia or possession thereof in the capacity as custodian, the maturing principal of and interest on which direct obligations of the United States of America when due and payable shall be sufficient to pay when due the principal of and interest on such obligations of such state, the District of Columbia, possession, or political subdivision.

"Revenues" shall mean and include all income, fees, charges, receipts, profits and other moneys derived by the Board from its ownership or operation of the Wastewater System, including, without limiting the generality of the foregoing, (i) all income, fees, charges, receipts, profits and other moneys derived from the furnishing or supplying of the services, facilities and commodities through the Wastewater System; and (ii) all income from investments of moneys held under the Resolution other than investment income on any construction fund but not including any earnings on moneys set aside for rebate to the United States under the provisions of Section 148(f) of the Internal Revenue Code of 1986, as amended. "Revenues" shall not include deposits subject to refund until such deposits have become the property of the Board; and income, fees, charges, receipts, profits or other moneys derived by the Board from its ownership or operation of any separate utility system or any gifts, grants, donations or other moneys received by the Board from any State or Federal agency or other person if such gifts, grants, donations or other moneys are the subject of any limitation or reservation (i) imposed by the donor or grantor or (ii) imposed by law or administrative regulation to which the donor or grantor is subject, limiting the application of such funds. "Revenues" shall also not include any payments to the Board with respect to which an adjustment to Debt Service has been made pursuant to the subparagraph (G) of the definition of Debt Service.

"Short-Term Indebtedness" shall mean bonds, notes or other obligations, including Variable Rate Indebtedness, maturing five (5) years or less from their date of issuance which are issued in anticipation of the issuance of revenue bonds the proceeds of which will be used to pay the Short-Term Indebtedness.

"Sinking Fund Installment" shall mean, as of any particular date of calculation, the amount required to be paid on a certain future date for the retirement of Outstanding Parity Indebtedness which mature after said future date, but does not include any amount payable by reason of the maturity of an Outstanding Parity Indebtedness or by call for redemption at the election of the Board or the City on behalf of the Board.

"Supplemental Resolution" shall mean any resolution adopted by the City pursuant to and in compliance with the Resolution providing for the issuance of Bonds, and shall also mean any other resolution adopted by the City pursuant to and in compliance with the provisions of the Resolution amending or supplementing the provisions of the Resolution.

"Valuation Date" shall mean with respect to any Capital Appreciation Indebtedness, the date or dates set forth in the resolution authorizing such Capital Appreciation Bonds on which specific Accreted Values are assigned to the Capital Appreciation Bonds.

"Variable Rate Indebtedness" shall mean any bonds, notes or other obligations of the Board or the City, on behalf of the Board, the interest rate on which is subject to periodic adjustment, at intervals, at such times and in such manner as shall be determined by the resolution authorizing such indebtedness, provided that if the interest rate shall have been fixed for the remainder of the term thereof (including a fixed rate pursuant to a Hedge Agreement with a Qualified Hedge Provider), it shall no longer be Variable Rate Indebtedness.

"Wastewater System" or "Wastewater Control System" shall mean all plants and properties, both real and personal and tangible and intangible, now or hereafter existing, of the City, both within and without the City, used for or pertaining to the collection, treatment and disposal of sewerage and wastewater, including industrial waste. Without limiting the generality of the foregoing, said term shall include: (1) the existing plants and properties comprising the Wastewater System of the City, as of the date of adoption of the Resolution; and (2) all additions, improvements, enlargements, extensions, expansions, and betterments to the Wastewater System of the City hereafter constructed or otherwise acquired, including, without limitation, properties acquired by purchase or annexations or properties acquired through the Board's participation in any regional wastewater system.

Authorization of Bonds

Bonds, notes and other obligations of the City or the Board may be issued that will have a parity of lien on the Net Revenues of the Wastewater System. Such Parity Indebtedness may be issued under the Resolution from time to time pursuant to the terms, conditions and limitations of the Resolution, in such amounts as may be determined by the Board, for any purpose authorized therein. The principal amount of Parity Indebtedness which may be issued thereunder and secured thereby shall not be limited, except as may be provided by law.

General Provisions for Issuance of Parity Indebtedness

Parity Indebtedness shall be issued by means of a Supplemental Resolution adopted by the City or the Board in accordance with applicable law.

Requirements for Issuing Additional Indebtedness

Additional Parity Indebtedness may be incurred provided the following requirements are met:

(a) Provided that all payments required to be made to the Debt Service Fund and into any reserve fund which may be required under resolutions authorizing Parity Indebtedness are current as of the date of issuance of the additional bonds, notes or other obligations, additional bonds, notes or other obligations may be issued or entered into by the City or the Board on a parity and equality of lien with the Outstanding Parity Indebtedness with respect to the lien and claim of such additional bonds, notes or other obligations to the net revenues of the System and the money on deposit in the Debt Service Fund for the following purposes and under the following conditions, but not otherwise:

> (i) For the purpose of refunding any Outstanding Parity Indebtedness, subordinate bonds, notes, loan agreements or other obligations, provided that after the issuance of such additional Parity Indebtedness, the Aggregate Debt Service on all Outstanding Parity Indebtedness, including the additional Parity Indebtedness to be issued, in any Fiscal Year shall not increase by more than ten percent (10%) after the issuance of such additional Parity Indebtedness.

(ii) For the purpose of financing the completion or equipping of improvements to the System for which Outstanding Parity Indebtedness have previously been issued but only to the extent necessary to complete such improvements in the manner contemplated at the time of the issuance of the Outstanding Parity Indebtedness that financed such improvements.

(iii) For the purposes of refunding any Outstanding Parity Indebtedness or any Prior Lien Bonds, subordinated bonds, notes or other obligations or extending, improving or replacing the System or for any other lawful purpose under applicable law, if one of the following conditions shall have been met: (A) the Net Revenues for any twelve-month period selected by the Board ending within the twelve months prior to the date of the issuance of the additional Parity Indebtedness must have been equal to at least 120% of the Maximum Annual Aggregate Debt Service on Outstanding Parity Indebtedness plus the Debt Service on the additional Parity Indebtedness proposed to be issued or (B) the estimated Net Revenues of the System for each of the three Fiscal Years next succeeding the issuance of the additional Parity Indebtedness, must be equal at least to 120% of Maximum Annual Aggregate Debt Service on the Notes, any other Outstanding Parity Indebtedness and all outstanding Prior Lien Bonds plus the Debt Service on the additional Parity Indebtedness proposed to be issued; provided, however, that if the additional Parity Indebtedness is to be issued for the acquisition or construction of any extension, improvement or replacement to the System, then the estimate of Net Revenues may be for the three Fiscal Years ensuing after the time that such improvement, extension or replacement is expected to be placed in service.

(iv) For the purpose of entering into a Hedge Agreement with a Qualified Hedge Provider with respect to Outstanding Parity Indebtedness but only to the extent of Hedge Payments.

(b) In calculating Net Revenues, Debt Service and Maximum Annual Aggregate Debt Service for all purposes under the Resolution, the following adjustments and assumptions shall be made:

(i) In calculating the Net Revenues on a historical basis, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is effective prior to the date of such calculation.

(ii) In calculating the Net Revenues for a period in the future, the amount of such Net Revenues may be adjusted to take into account any rate increase adopted by the Board that is to be effective within one year of the date of such calculation, and if such calculation is being made in connection with the issuance of Parity Indebtedness, the Net Revenues may be calculated based upon the assumption that any improvements financed with proceeds of the Parity Indebtedness will be completed within a time period established in a report of a Consulting Engineer.

(c) Any calculation or projection of Net Revenues described above, whether for a historical period or for a future period, shall be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board. If the calculation is made as to a future period, a Consulting Engineer shall state in a report that the assumptions underlying any projections of the Board as to Net Revenues are reasonable. Any calculation of the Maximum Annual Aggregate Debt Service shall also be set forth in a certificate of the President and Chief Executive Officer and Chief Financial Officer of the Board, which certificate shall be accompanied by a certificate of a financial advisory firm to the effect that the calculation of Maximum Annual Aggregate Debt Service is correct and is in compliance with the terms of the Resolution, but such certificate of the financial advisory firm shall only be required if

Variable Rate Indebtedness, Balloon Indebtedness or Short-Term Indebtedness must be taken into account in the calculation of Maximum Annual Aggregate Debt Service.

(d) Any obligation of the Board to pay amounts under a Hedge Agreement other than Hedge Payments, including a termination payment upon the termination of a Hedge Agreement, shall be a subordinate obligation to the obligations with respect to Parity Indebtedness.

Application of Revenues

As long as any Parity Indebtedness shall be outstanding and unpaid either as to principal or as to interest, or until the discharge and satisfaction of the Parity Indebtedness as provided in the resolution authorizing said Parity Indebtedness, the entire income and revenues of the System shall be deposited as collected in the Revenue Fund established by the Resolution (the "Revenue Fund"), to be administered and controlled by the Board. The income and revenues deposited therein shall be used only as follows:

(a) The money in the Revenue Fund shall be disbursed first from month to month for the payment of Operation and Maintenance Expenses.

(b) The money remaining in the Revenue Fund, after payment of Operation and Maintenance Expenses, shall next be used to make deposits into a separate and special fund, to be known as the Debt Service Fund (the "Debt Service Fund"), to be kept separate and apart from all other funds of the Board and used to pay principal of and interest on Parity Indebtedness and Hedge Payments (net of Hedge Receipts) with respect thereto as the same become due, either by maturity or mandatory redemption. Such deposits shall be made monthly, or as otherwise set forth in the Resolution or in the resolution authorizing such Parity Indebtedness or Hedged Payments, until all Parity Indebtedness is paid in full or discharged and satisfied. Unless otherwise authorized in the resolution authorizing any Parity Indebtedness, for the period commencing with the month next following the delivery of the Parity Indebtedness, each monthly deposit shall be an amount that, together with all other monthly deposits of approximately equal amounts during such period and amounts otherwise in said Fund, will be equal to principal due on the Parity Indebtedness on the next principal payment date, divided by the number of months from and including the month of the first such deposit to and including the months preceding the next principal payment date; provided that, if the next principal payment date is more than 13 months following the month next following the delivery of the Parity Indebtedness, such monthly deposits to the Debt Service Fund shall commence in the month that is 13 months prior to the month of the next principal payment date. Furthermore, during such period, there shall be deposited to the Debt Service Fund monthly an amount equal to one-sixth (1/6) of the interest coming due on the next interest payment date for Parity Indebtedness (unless otherwise specified in the resolution authorizing such Parity Indebtedness).

In each month thereafter, each monthly deposit shall consist of an interest component and a principal component except as provided in the Resolution. If interest is payable semi-annually, then the interest component shall be an amount equal to not less than one-sixth (1/6th) of the interest coming due on any Parity Indebtedness on the next succeeding interest payment date, unless otherwise specified in the resolution authorizing such Parity Indebtedness. Unless otherwise specified in the resolution authorizing Parity Indebtedness, the principal component shall be an amount which shall be established annually on each July 1 for all payments to be made during the ensuing twelve-month period commencing in July of each calendar year and ending in June of the following calendar year and shall be not less than one-twelfth (1/12) of the principal amounts, as the case may be, coming due, whether by maturity or mandatory redemption, on the Parity Indebtedness then outstanding during such twelve-month period. No further deposit shall be required when the Debt Service Fund balance is equal to or greater than the amount needed to pay interest coming due on the next interest payment date and the total of the principal amounts payable, either by maturity or mandatory redemption, during the applicable twelve-month period. Money in the Debt Service Fund shall be used solely and is expressly and exclusively pledged for the purpose of paying principal of and interest on Parity Indebtedness. Notwithstanding the foregoing, deposits for the payment of principal and interest on Variable Rate Indebtedness or Hedge Payments shall be made as set forth in the resolution authorizing such Variable Rate Indebtedness or Hedge Payments.

(c) The next available money in the Revenue Fund shall be paid to any issuer of an insurance policy, surety bond, letter of credit or similar instrument (a "Reserve Fund Credit Facility") (pro rata, if more than one) to the extent needed to reimburse the issuer for any amounts advanced under the Reserve Fund Credit Facility, including any amounts payable under any guaranty agreement relating to such amounts, together with reasonable related expenses incurred by the issuer of such Reserve Fund Credit Facility and any interest relating to such amounts.

(d) The next available money in the Revenue Fund shall be deposited to any reserve fund created pursuant to any resolution authorizing Parity Indebtedness in the manner provided in such resolution.

(e) The next available money in the Revenue Fund shall be used to pay liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with the issuance of Parity Indebtedness.

(f) The next available money in the Revenue Fund shall be used for the payment of all other payments to be made under the Parity Indebtedness not provided for in the preceding subsections including payments in connection with Hedge Agreements that are not Hedge Payments, including termination payments.

(g) The next available money in the Revenue Fund shall be used to pay principal of and interest on (including reasonable reserves therefor) any bonds, notes or obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness and then for the purpose of the payment of liquidity fees, credit enhancement fees, remarketing agent fees and similar fees that are payable in connection with bonds, notes or other obligations payable from the Revenues of the System, but junior and subordinate to the Parity Indebtedness.

(h) The next available money in the Revenue Fund shall be used for the purpose of making payments in lieu of taxes and, to the extent not so used, may be used for any lawful purpose, including such reserve funds and other funds as the Board deems necessary and appropriate.

(i) Money on deposit in the Funds described above may be invested by the Board in such investments as shall be permitted by applicable law, as determined by an authorized representative of the Board, all such investments to mature not later than the date on which the money so invested shall be required for the purpose for which the respective Fund was created. All income derived from such investments shall be regarded as revenues of the System and shall be deposited in the Revenue Fund. Such investments shall at any time necessary be liquidated and the proceeds thereof applied to the purpose for which the respective Fund was created. The Board is authorized to enter into contracts with third parties for the investment of funds in any of the Funds described herein.

(j) The Revenue Fund and the Debt Service Fund shall be held and maintained by the Board and, when not invested, kept on deposit with a bank or financial institution regulated by and the deposits of which are insured by the Federal Deposit Insurance Corporation or similar federal agency. All moneys in such Funds so deposited shall at all times be secured to the extent and in the manner required by applicable State law.

(k) Notwithstanding the foregoing, the Board may deposit any amounts described in subparagraph (G) of the definition of Debt Service directly into the Debt Service Fund at the Board's option.

Investment of Funds

Moneys in the Debt Service Fund shall, to the fullest extent practicable and reasonable, be invested and reinvested by the Board solely in, and obligations credited to such Accounts shall be, investments specified in item (i), (ii), (iii), (iv), (v)(b), (vi) and (vii) of the definition of Investment Securities which shall mature or be subject to redemption at the option of the holder thereof on or prior to the respective dates when the moneys in such accounts will be required for the purposes intended.

Moneys in the Revenue Fund not required for immediate disbursement for the purpose for which said Fund is created shall, to the fullest extent practicable and reasonable, be invested and reinvested by the Board, to the extent allowed by law, solely in, and obligations deposited in said Fund shall be, Investment Securities which shall mature or be subject to redemption at the option of the holder thereof, not later than such times as shall be necessary to provide moneys when needed to provide payments from such Fund.

Combined Systems

Notwithstanding anything elsewhere provided in the Resolution, nothing contained in the Resolution shall prevent the Board from combining any or all of the Board's utility systems into a single unified operation (the "Combined System") and commingling the revenues of the systems so combined in the Combined System without keeping separate accounts of the funds of each of such systems, provided payments from the funds of the Combined System are required to be made into the Debt Service Fund created under the Resolution from time to time in amounts sufficient to comply with provisions thereof and in amounts sufficient to pay the principal of and interest on the Outstanding Parity Indebtedness as such principal and interest becomes due. Bonds, notes and other obligations ("Parity Combined System Obligations") payable from revenues of the Combined System may be issued on a parity with Outstanding Parity Indebtedness provided at the time of the issuance of any such Parity Combined System Obligations, the following conditions have been complied with. The Net Revenues of the Combined System, for a period of twelve consecutive months (hereinafter sometimes called the "Combined Twelve-Month Period") out of the eighteen months immediately preceding the issuance of such Parity Combined System Obligations shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness and the obligations proposed to be issued; or if within twelve months prior to the issuance of the Parity Combined System Obligations a revised schedule of rates for the Combined System or any part thereof shall have been put into effect, then the Net Revenues of the Combined System for the Twelve-Month Period, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Separate System

Nothing contained in the Resolution shall prevent the Board from acquiring a separate wastewater transmission or distribution system or any combination thereof, or any other system, facilities or equipment which municipalities in Tennessee operating wastewater distribution systems are authorized to own, operate or finance, and nothing therein shall prevent the issuance of bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, to acquire any such system or facilities. Any facilities or system acquired by the Board, at the election of the Board, may be operated as a separate and independent system or be merged into the System and operated as a single unified system with the System (the "Merged Systems"). Revenues of the Merged Systems may be commingled without keeping separate accounts of the funds of each of the systems, provided all Revenues of the Merged Systems are applied in accordance with the Resolution, including the payment of principal of and interest on all bonds, notes or other obligations of the acquired system. All Outstanding Parity Indebtedness and any bonds, notes and other obligations of the acquired system outstanding upon the merger of the systems designated by the Board may be payable from revenues of the Merged Systems on a parity and equality of lien with each other, provided the Net Revenues of the Merged Systems, for a period of twelve consecutive months (hereinafter sometimes called the "Twelve-Month Period") out of the eighteen months immediately preceding the merger of the systems shall be equal to at least 1.2 times the Maximum Annual Aggregate Debt Service on all Outstanding Parity Indebtedness, all bonds, notes and obligations of the acquired system then outstanding and any additional indebtedness to be then issued; or if within twelve months prior to any such calculation, the Board shall have put into effect a revised schedule of rates for the Merged Systems or any part thereof, then the Net Revenues of the Merged Systems, as certified by a Consulting Engineer or Financial Adviser, that would have resulted from such revised rates had they been in effect for the Twelve-Month Period, may be used in lieu of the actual Net Revenues for such Twelve-Month Period.

Rate Covenant

The Board covenants and agrees that it shall fix, establish, maintain and collect rates and charges for the services or facilities furnished or supplied by the Wastewater System or which shall be any part thereof, which rates, tolls, rents and charges shall be sufficient in each Fiscal Year to produce Revenues in such Fiscal Year which together with other moneys which lawfully may be applied to the purpose, will be equal to at least the sum of (A) Debt Service on all Bonds and Original Bonds in such Fiscal Year, (B) the necessary expenses of operating, maintaining, renewing and replacing the Wastewater System and (C) the additional amounts, if any, required to pay all other charges or liens whatsoever payable from the Revenues in such Fiscal Year; provided, however, that such rates, tolls, rents, and other charges shall be sufficient to produce in any Fiscal Year Net Revenues at least equal to one and twenty-hundredths (1.20) times Debt Service on all Bonds and Original Bonds in such Fiscal Year.

Additional Covenants

To Maintain the Properties of the Wastewater System in Good Repair. The City shall (i) maintain, preserve, and keep, or cause to be maintained, preserved and kept, the properties of the Wastewater system and all additions and betterments thereto and extensions thereof, and every part and parcel thereof in good repair, working order and condition, (ii) from time to time make, or cause to be made, all necessary and proper repairs, renewals, replacements, additions, extensions and betterments thereto, so that at all times the business carried on in connection therewith shall be properly and advantageously conducted, and (iii) comply, or cause to be complied with the terms and conditions of any permit or license for the Wastewater System or any part thereof issued by any federal or state governmental agency or body and with any federal or state law or regulation applicable to the construction, operation, maintenance and repair of the Wastewater System or requiring a license, permit or approval therefor.

Sale, Lease or Other Disposition of Properties of the Wastewater System. The City shall not sell, mortgage, lease or otherwise dispose of the properties of the Wastewater System except as provided below.

(1) The City may sell, lease, or otherwise dispose of the properties comprising the Wastewater System upon compliance with the provisions of the Original Resolution so long as Original

Bonds are outstanding and if simultaneously with such sale or other disposition thereof provision is made for the payment of all Bonds then outstanding and such Bonds are no longer deemed outstanding within the meaning of the Resolution.

(2) The City may sell, lease or otherwise dispose of any part of the properties comprising the Wastewater system if an Authorized Officer of the Board shall certify in writing that such terms and conditions of the proposed sale, lease or other disposition of any such properties are fair and reasonable, and that the estimated Revenues to be derived from the remaining properties of the Wastewater System, after taking into consideration the use by the Board of the proceeds of such proposed sale, lease or other disposition of such properties, will be sufficient to enable the City to comply with all covenants and conditions of the Resolution Proceeds of any sale, lease or other disposition of any portion of the properties of the Wastewater System shall be paid: (i) if such proceeds are not in excess of $100,000, into the Revenue Fund, or (ii) if such proceeds are in excess of $100,000, (A) into the Bond Retirement Account in the Bond Fund and applied to the purchase or redemption of Bonds or (B) into the Revenue Fund and applied by the Board for the purpose of constructing extensions, betterments or improvements to the Wastewater System, as the Board shall determine.

(3) The City may sell, lease, or otherwise dispose of surplus lands, crops, timber, buildings and any other portion of the works, plant and facilities of the Wastewater System and real and personal property comprising a part thereof, which, in the opinion of the Board, shall have become unserviceable, inadequate, obsolete, worn out, or unfit to be used in the operation of the Wastewater System, or no longer necessary material to, or useful in such operation. Proceeds of any such sale, lease or other disposition of any portion of the properties of the Wastewater System shall be paid into the Revenue Fund.

(4) If permitted by the laws of the State of Tennessee, the City may transfer without consideration the properties comprising the Wastewater System to a public corporation or political subdivision of the State of Tennessee, provided such corporation or subdivision assumes all of the City s obligations and duties under the Resolution.

(5) In the event that any part of the properties comprising the Wastewater System shall be transferred from the City through the operation of law (including condemnation), any moneys received by the City as a result thereof shall be paid (i) if such proceeds are not in excess of $100,000, into the Revenue Fund, or (ii) if such proceeds are in excess of $100,000, (A) into the Bond Retirement Account in the Bond Fund and applied to the purchase or redemption of Bonds or (B) into the Revenue Fund and applied by the Board for the purpose of constructing extensions, betterments or improvements to the Wastewater System, as the Board shall determine.

Insurance. (A) Except as provided in paragraph (B) below, the City shall keep, or cause to be kept, the works, plants, and facilities comprising the properties of the Wastewater System and the operations thereof insured to the extent available at reasonable cost with responsible insurers, with policies payable to the Board, against risks of direct physical loss, damage to or destruction of the Wastewater System, or any part thereof, at least to the extent that similar insurance is usually carried by utilities operating like properties against accidents, casualties or negligence, including liability insurance and employer's liability; provided, however, that any time while any contractor engaged in constructing any part of the Wastewater System shall be fully responsible therefor, the City shall not be required to keep such part of the System insured. All policies of insurance shall be for the benefit of the holders of the Bonds and the Board as their respective interests may appear.

In the event of any loss or damage to the properties of the Wastewater System covered by insurance, the Board will (1) with respect to each such loss, promptly repair and reconstruct to the extent necessary to the proper conduct of the operations of the Wastewater System the lost or damaged portion thereof and shall apply the proceeds of any insurance policy or policies covering such loss or damage for that purpose to the extent required therefor, unless, in case of loss or damage involving $100,000 or more the Board shall determine that such repair and reconstruction not be undertaken, and (2) if the Board shall not use the entire proceeds of such insurance to repair or reconstruct such lost or damaged property, the proceeds of such insurance policy or policies or any portion thereof not used for such repair or reconstruction, as the case may be, shall be paid into the Revenue Fund.

(B) If the Board elects to self-insure or fails to carry insurance against any of the risks normally insured against by operators of facilities similar to the Wastewater System, it must secure the concurrence of the Consulting Engineer or independent consultant having an expertise in the insurance of utilities. In making its decision whether to concur in such self insurance, the Consulting Engineer or independent consultant shall (i) make an estimate of the added financial risks, if any, assumed by the City as a result of the self-insurance, (ii) consider the availability of commercial insurance, the terms upon which such insurance is available and the costs of such available insurance, and the effect of such terms and costs upon the City's costs and charges for its services, (iii) determine whether the added financial risk, if any, being assumed by the City is prudent in light of the savings to be realized from such self-insurance or in light of the general availability of insurance.

Consulting Engineer. In the event that the City has not complied with its rate covenant, the Board shall retain and appoint, as Consulting Engineer, an independent consulting engineer or engineering firm or corporation having special skill knowledge and experience in analyzing the operations of wastewater systems, preparing rate analyses, forecasting the loads and revenues of wastewater systems, preparing feasibility reports respecting the financing of wastewater systems and advising on the operation of wastewater facilities. Such Consulting Engineer shall no later than 90 days following its retention make an examination of and report on the properties and operations of the Wastewater System. Each such report shall be in sufficient detail to show whether the City has satisfactorily performed and complied with the covenants, agreements and conditions set forth in the Resolution with respect to the management of the business of the Wastewater System, the sufficiency of the amount being charged and collected for services under the requirements of the Resolution, the proper maintenance of the Wastewater System, and the making of repairs, renewals, replacements, modifications, additions and betterments necessary or desirable to improve operating reliability or reduce costs and recommendations thereof. A copy of each such report shall be filed with the Board and sent to any Bondholder filing with the Board a written request for a copy thereof. On the filing of such report, the Board shall undertake a review of the management of the business of the Wastewater System and shall cause the prompt taking of such action as shall be necessary to fully perform and comply with the covenants, agreements and conditions as to which the report specified such failure of performance or compliance.

Books of Account; Annual Audit. The Board shall maintain and keep proper books of account relating to the Wastewater System and in accordance with generally accepted accounting principles. Within one hundred twenty (120) days after the end of each Fiscal Year, the Board shall cause such books of account to be audited by an independent certified public accountant. A copy of each audit report and financial statements prepared in conformity with generally accepted accounting principles shall be filed promptly with the Board and sent to any Bondholder filing with the Board a written request for a copy thereof.

Not to Furnish Free Service; Enforcement of Accounts Due. So long as any Bonds issued pursuant to the Resolution are outstanding and unpaid, the Board will not furnish or supply any service or facility furnished by it or in connection with the operation of the Wastewater System, free of charge to any person, firm or corporation, public or private, and the Board will promptly enforce the payment of any and all accounts owing to the Board by reason of the ownership and operation of the Wastewater System.

Not to Issue Additional Bonds Under the Original Resolution. The City shall not issue any additional Bonds under the Original Resolution except bonds issued to refund Original Bond.

Amendment of Original Resolution. The City will not hereafter consent to or agree to any supplement, change, amendment or modification of the Original Resolution which would materially prejudice or adversely affect the rights or interests of the holders of the Bonds except as otherwise expressly provided in the Resolution.

Tax Covenant

The City has covenanted that throughout the term of the Bonds and through the date that the final rebate, if any, must be made to the United States in accordance with Section 148 of the Internal Revenue code of 1986, as amended (the "Code") it will comply with the provisions of Sections 103 and 141 through 150 of the Code, and the regulations adopted or promulgated under said Section that must be satisfied in order that interest on the Bonds shall be, and continue to be, excluded from gross income for federal income tax purposes under said Section 103.

Amendment of Resolution

The Resolution may be amended without the consent of or notice to the holders of the Parity Indebtedness for the purposes of (i) curing any ambiguity or formal defect or omission in the Resolution; (ii) making such amendments as are necessary to prevent interest on any Parity Indebtedness from being included in gross income of the holders thereof for federal income tax purposes; (iii) adding to the covenants and agreements of the City or the Board or surrendering or limiting any right or power of the City or the Board; or (iv) making such amendments as are necessary for any Parity Indebtedness to be held or continue to be held in book-entry form.

In addition to the amendments to the Resolution without the consent of the holders as referred to above, the Resolution may be amended from time to time if such amendment shall have been consented to by the holders of not less than a majority in principal amount of Outstanding Parity Indebtedness (not including in any case any Bonds or Parity Indebtedness which may then be held or owned by or for the account of the City or Board); but the Resolution may not be so amended (without the consent of all affected holders of Outstanding Parity Indebtedness) in such manner as to:

> (i) make any change in the maturity or interest rate (other than in accordance with its terms) of the Parity Indebtedness, or modify the terms of payment of principal of or interest on Parity Indebtedness or impose any conditions with respect to such payment; or
>
> (ii) to make any Parity Indebtedness redeemable other than in accordance with its terms; or
>
> (iii) to create a preference or priority of any Parity Indebtedness over, any other Parity Indebtedness; or
>
> (iv) reduce the percentage of the principal amount of Parity Indebtedness the consent of the holders of which is required to effect a further amendment.

Whenever the City shall propose to amend the Resolution under the provisions of the Resolution, the Board shall cause notice of the proposed amendment to the holders of the Parity Indebtedness by sending a summary of such proposed amendment to such holders and shall state that a copy of the proposed amendatory resolution is on file in the office of the Secretary of the Board. The holders of Parity Indebtedness shall be determined by the registration records of the City or the Board or any registration agent therefor or in such other manner as is commercially reasonable.

Whenever at any time within one year from the date of the mailing of such notice there shall be filed with the Secretary an instrument or instruments executed by the holders of at least a majority aggregate principal amount of the Outstanding Parity Indebtedness, which instrument or instruments shall refer to the proposed amendatory resolution described in such notice and shall specifically consent to and approve the adoption thereof, then the Board and/or the City may adopt such amendatory resolution and such resolution shall become effective and binding upon the holders of all Parity Indebtedness.

Any consent given by the holder of Parity Indebtedness shall be irrevocable for a period for one year from the date of the instrument evidencing such consent and shall be conclusive and binding upon all future holders of the same Parity Indebtedness during such period. Such consent may be revoked at any time after one year from the date of such instrument by the holder who gave such consent or by a successor in title by filing notice of such revocation with the Secretary.

For purposes of determining the aggregate principal amount of Parity Indebtedness outstanding for purposes of amendments, whether the holders of a sufficient percentage in aggregate principal amount of Bonds and Parity Indebtedness have consented to any amendment, the Board may make such determination at any time while a request for consents to such amendment is outstanding and may include any Parity Indebtedness issued during such period in making such determination. The Accreted Value of any Capital Appreciation Debt as of the time of any such determination shall be used in making any such determination.

The fact and date of the execution of any instrument relative to amendments may be proved by the certificate of any officer in any jurisdiction who by the laws thereof is authorized to take acknowledgments of deeds within such jurisdiction, that the person signing such instrument acknowledged before him the execution thereof, or may be proved by an affidavit of a witness to such execution sworn to before such officer. In the event that any Parity Indebtedness is held in book-entry form, any consent to an amendment may be executed by any beneficial owner of such Parity Indebtedness, which beneficial ownership may be proved by an affidavit of the beneficial owner.

Notwithstanding anything in the Resolution to the contrary, the Board and/or the City may adopt amendments to the Resolution that do not become effective until the payment or defeasance of any Parity Indebtedness outstanding on the date such amendments are adopted.

Defaults and Remedies

A Bondholders' Committee or any Bondholder shall have authority to exercise each right and remedy granted in the Resolution only to the extent that the exercise of such right or remedy will not impair the rights of the holders of the Original Bonds.

The following events shall be Events of Default under the Resolution:

(1) Default shall be made in the due and punctual payment of the principal of and premium, if any, on any of the Bonds or Original Bonds when the same shall become due and payable, either at maturity or by proceedings for redemption or otherwise;

(2) Default shall be made in the due and punctual payment of any installment of interest on any Bond or Original Bond, or any sinking fund installment for Bonds when and as such installment of interest or sinking fund installment shall become due and payable;

(3) The City shall default in the observance and performance of any other of the covenants, conditions and agreements on the part of the City contained in the Resolution and such default or defaults shall have continued for a period of ninety (90) days, after written notice thereof to the City from the holders of not less than twenty-five percent (25%) in principal amount of the bonds then Outstanding; provided, however, that if such failure shall be such that it cannot be, corrected within such ninety day period, it shall not constitute an Event of Default if corrective action is instituted within such period and diligently pursued until the failure is corrected;

(4) An order, judgment or decree shall be entered by any court of competent jurisdiction with the consent or acquiescence of the City, or if such order, judgment or decree, having been entered without the consent or acquiescence of the City, shall not be vacated, set aside, discharged or stayed (or in case custody or control is assumed by said order, such custody or control shall not otherwise be terminated) within ninety days after the entry thereof, and if appealed,' shall not thereafter be vacated or discharged: (a) appointing a receiver, trustee or liquidator for the City under the provisions of Chapter IX of an Act to establish a Uniform Law on the Subject of Bankruptcies, II U.S.C. 901-946, (c) granting relief to, the City under any amendment to said Bankruptcy Act or under any other applicable bankruptcy act which shall give relief substantially similar to that afforded by said Chapter IX, or (d) assuming custody or control of the Wastewater System or any part thereof under the provisions of any other law for the relief or aid of debtors.

(5) The City shall (a) admit in writing its inability to pay its debts generally as they become due, (b) file a petition in bankruptcy or seeking a composition of indebtedness, (c) make an assignment for the benefit of its creditors, (d) consent to the appointment of a receiver of the whole or any substantial part of the Wastewater System, (e) file a petition or an answer seeking relief under said Bankruptcy Act as the same may be amended or any other applicable bankruptcy act which shall give relief substantially the same as that afforded by said chapter, or (f) consent to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the City or of the whole or any substantial part of the Wastewater System.

If an event of Default shall have happened and shall not have been remedied, the books of record and account of the Board relating to the Wastewater System and all other records relating thereto shall at all times be subject to the inspection and use of any persons holding at least twenty-five percent (25%) of the principal amount of Bonds outstanding and of their respective agents and attorneys or of any committee thereof.

If an Event of Default shall have happened and shall not have been remedied, upon demand of a Bondholders' Committee, the Board shall pay over to the Bondholders' Committee and cause any construction fund trustee to pay over to the Bondholders Committee (i) forthwith, all moneys, securities and funds then held by the Board and pledged under the Resolution, and moneys, securities and funds then held by any construction fund trustee, and (ii) as promptly as practicable after receipt thereof, all Revenues.

During the continuance of an Event of Default as defined in items 1 and 2 above or of any other Event of Default resulting in an Event of Default as defined in items 1 and 2, the Revenues received by a Bondholders' Committee as the result of the taking of possession of the business and properties of the Wastewater System, shall be applied by the Bondholder Committee, subject to the provisions of the

Original Resolution so long as the Original Bonds are outstanding thereunder, firstly to the payment of all necessary and proper Operation and Maintenance Expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee, secondly, to the then due and overdue payments to the Bond Fund including the making up of deficiencies therein; and lastly, for any lawful purpose in connection with the Wastewater System.

In the event that at any time the funds held by the Bondholders' Committee shall be insufficient for the payment of the principal of and premium, if any, and interest then due on the Bonds, such funds (other than funds held for the payment or redemption of particular Bonds or coupons which have theretofore become due at maturity or by call for redemption) and all Revenues and other moneys received or collected for the benefit or for the account of Holders of the Bonds, subject to the provisions of the Original Resolution so long as the Original Bonds are outstanding thereunder, shall be applied as follows:

(1) Unless the principal of all of the Bonds shall have become due and payable,

FIRST, to the payment of all necessary and proper operating expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee;

SECOND, to the payment to the persons entitled thereto of all installments of interest (including any interest on overdue principal) then due in the order of the maturity of such installments, earliest maturities first, and, if the amount available shall not be sufficient to pay in full any installment or installments of interest maturing on the same date, then to the payment thereof ratable, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

THIRD, to the payment to the persons entitled thereto of the unpaid principal and premium, if any, due and unpaid upon the Bonds at the time of such payment, ratably, according to the amounts of principal and premium, if any, due on such date to the persons entitled thereto, without any discrimination or preference.

(2) If the principal of all of the Bonds shall have become due and payable,

FIRST, to the payment of all necessary and proper operating expenses of the Wastewater System and all other proper disbursements or liabilities made or incurred by the Bondholders' Committee;

SECOND, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference.

Upon the occurrence of an Event of Default and while such Event of Default shall be continuing, a Bondholders' Committee representing the holders of not less than a majority of the Bonds at the time outstanding, as a matter of right against the City, without the notice or demand, and without regard to the adequacy of the security for the Bonds, shall, but only if and to the extent then permitted by law and the Original Resolution be entitled to take possession and control of the business and properties of the Wastewater System and upon taking such possession, such Bondholders' Committee shall operate and maintain the Wastewater System, make any necessary repairs, renewals and replacements in respect thereof, prescribe rates and charges for services furnished through the facilities of the Wastewater System and collect the Revenues of the Wastewater System.

Upon the occurrence of an Event of Default and at any time while an Event of Default shall be continuing, the holders of twenty-five percent (25%) or more in principal amount of the Bonds then outstanding or any committee therefore shall, but only if and to the extent then permitted by law and the Original Resolution, be entitled to the appointment of a receiver to take possession of the Wastewater System, to manage, and receive and apply the Revenues.

If an Event of Default shall happen and shall not have been remedied, a Bondholders' Committee is empowered to proceed forthwith to institute such suits, actions and proceedings to protect and enforce its rights and the rights of the holders of the Bonds under the Resolution or, to file such proof of debt, amendment of proof of debt, claim, petition or other document as may be necessary or advisable in order to have the claims of the holders of the Bonds allowed in any equity receivership, insolvency, bankruptcy, liquidation, readjustment, reorganization or other similar proceedings.

The holders of not less than a majority in principal amount of the Bonds at the time outstanding shall be authorized and empowered (1) to direct the time, method, and place of conducting any proceeding for any remedy available to the holders of the Bonds; or (2) on behalf of the holders of the Bonds then outstanding, to consent to the waiver of any Event of Default or its consequences.

Any holder of any of the Bonds shall have the right to institute any suit, action or proceeding at law or in equity for the enforcement of any provision of the Resolution or the execution of any trust under the Resolution or for any remedy under the Resolution.

Defeasance

The obligations of the City under the Resolution and the liens, pledges, charges, trusts, covenants and agreements of the City therein made or provided for, shall be fully discharged and satisfied as to any Bond and such Bond shall no longer be deemed to be outstanding thereunder, (i) when such Bond shall have been canceled, or shall have been surrendered for cancellation or is subject to cancellation, or shall have been purchased from moneys held under the Resolution; or (ii) when payment of the principal of and premium, if any, on such Bond, plus interest on such principal to the due date thereof (whether such due date be by reason of maturity or upon redemption or prepayment, or otherwise) either (a) shall have been made or caused to be made in accordance with the terms thereof, or (b) shall have been provided for by irrevocably depositing with a Trustee, in trust, and irrevocably appropriating and setting aside exclusively for such payment, either (1) moneys sufficient to make such payment or (2) Refunded Municipal Obligations or Investment Securities which shall include only those obligations described in items (i) and (ii) of the definition of Investment Securities above maturing as to principal and interest in such amounts and at such times as will insure the availability of sufficient moneys to make such payment, whichever the City deems to be in its best interest, and all necessary and proper fees, compensation and expenses of such Trustee with respect to which such deposit is made shall have been paid or the payment thereof provided for to the satisfaction of said Trustee and proper notice of such redemption or prepayment shall have been previously published in accordance with the Resolution or provision shall have been irrevocably made for the giving of such notice.

Swap Contracts

If the City enters into an interest rate swap or other interest rate hedging transaction with respect to the payment of interest with respect to the Bonds, the amounts that the City pays or receives under such interest rate swap or other hedging transaction shall be taken into account in determining interest or the interest requirements on such Bonds for all purposes under the Resolution. Such payments shall be made or such funds received at such times and in such amounts as shall be established by a Supplemental Resolution authorizing the interest rate swap or other hedging transaction. In the case of variable rate issues in which financial covenants are based on the synthetic fixed rate under a swap, utilization of the synthetic fixed rate under a swap for purposes of performing any required calculations under the applicable legal documentation shall be permitted only if such documentation and the applicable swap satisfy the following requirements:

(i) The swap provider must be rated least A-/A3 or better by Standard & Poor's and Moody's (the "Initial Rating Requirement").

(ii) Assuming satisfaction of the Initial Rating Requirement, and thereafter as long as the long-term indebtedness of the swap provider or the claims paying ability of the swap provider does not fall below Baa2 or BBB by either Standard & Poor's or Moody's (the "Minimum Rating Requirement"), all interest rate assumptions for purposes of establishing or demonstrating compliance with financial covenants (e.g., rate covenant, additional bonds test) may be based upon the synthetic fixed interest rate under the swap.

(iii) Failure to maintain a swap provider holding the Minimum Rating Requirement or, if the issuer elects, failure to replace any such swap provider by another swap provider which holds the Initial Rating Requirement within ten business days, will have the following effects: (1) compliance with any required rate covenant for the preceding Fiscal Year will be based on the actual interest paid on the Variable Rate Indebtedness during such Fiscal Year without regard to the swap; and (2) any "forward-looking" financial covenant based upon debt service will be based upon the variable rate.

(iv) For short-dated swaps having terms or weighted average maturities of ten years or less, whereupon related bonds automatically convert to a pre-set fixed rate, the embedded swap provider must meet the Initial Rating Requirement. With respect to financial covenants, the synthetic fixed rate based on the swap may be utilized for purposes of demonstrating or establishing compliance with the applicable covenant. Failure to maintain a swap provider holding the Minimum Rating Requirement during the embedded swap period will require replacement of the Swap provider within ten business days. Failure to replace will require re-calculation of the applicable financial covenants as described above.