THE BIGGEST SOLAR INVESTMENT IN THE VALLEY

502 MEGAWATTS
enough to power 83,000 homes each year

2021 Environmental Report
www.kub.org/environment
TVA Pandemic Recovery Credits

- TVA Board approved $220 million in Pandemic Recovery Credits for local power companies (LPCs) and TVA direct-served customers
- LPCs receive 2.5% credits on standard and non-standard service power costs
- Non-standard credits must be applied directly to large commercial and industrial customers’ bills
- Standard service credits estimated to be $7.3 million
Proposed Use of $7.3 Million

- $1.3 million available for customers with payment arrangements for past due bills
- $6 million provided to all residential and standard business customers through lower rates
  - Average residential customer saves $17 for 12 months
  - Offsets about 40% of initial electric rate increase
  - Mid-sized business customer saves $260 for 12 months
Other Uses of $6 Million Were Considered

- **Home weatherization**
  - KUB’s Home Uplift funding limit of $1.1 million included in approved budget and long-range plan
  - Over $5 million in assistance available

- **Utility bill assistance**
  - Over $25 million in assistance available over the next year
  - Federal grants, Project Help, KUB CURE (COVID Utility Relief Effort), and other sources
<table>
<thead>
<tr>
<th>Source of Funds</th>
<th>Description</th>
<th>Funds Available ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal grants – Knox Housing Assistance Program</td>
<td>Payment of rent and/or utility bills (City and Knox County)</td>
<td>$18,500,000</td>
</tr>
<tr>
<td>Federal grant – Low-Income Energy Assistance Program (LIHEAP)</td>
<td>Payment of electric and natural gas bills</td>
<td>$ 6,000,000</td>
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<tr>
<td>Federal grant – Low-Income Water Assistance Program (LIHWAP)</td>
<td>Payment of water and wastewater bills</td>
<td>TBD</td>
</tr>
<tr>
<td>COVID Utility Relief Effort (CURE)</td>
<td>Payment of utility bills</td>
<td>$ 265,000</td>
</tr>
<tr>
<td>Project Help</td>
<td>Payment of utility bills</td>
<td>$ 306,000</td>
</tr>
<tr>
<td>TVA Pandemic Recovery Credits</td>
<td>Eliminate outstanding utility bill payment arrangements</td>
<td>$ 1,300,000</td>
</tr>
<tr>
<td>Other sources (faith-based, social service agencies, etc.)</td>
<td>Payment of utility bills</td>
<td>$ 1,100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$27,471,000</strong></td>
</tr>
</tbody>
</table>
Utility Bill Assistance Awareness

- List sources of assistance on KUB website
  - Contact information
  - Provide links to websites
- Digital and radio ads
- Bill stuffers and e-mails to paperless billing customers
- Post cards/e-mails to customers with past due balances

- Postcards/information sheets to area agencies
  - Health Department
  - Senior/neighborhood centers
  - Section 8 Housing Managers
  - Churches and food pantries
  - Schools
  - SEEED
  - United Way
  - Centro Hispano
  - YMCA and YWCA
Resolution 1446

• Amends Purchased Power Adjustment (PPA) to address use of standard service power cost credits
Application and IT Systems Update
Cutting Edge Corporate Network Helps KUB serve Customers Better

- Moving from 10GB to 100GB ring architecture
- Improved reliability and redundancy
- Benefiting from recent fiber deployments
Firewall Upgrade: Keeping KUB Systems Secure

• Lifecycle replacement of hardware and software
• Allows for advanced management capabilities
• Supports increased throughput
• Offers redundancy for better performance and disaster recovery
Voice Radio System Critical to Safe Operations

- Installed, managed, and maintained private radio network
- Upgrading to improve coverage, voice quality, and redundancy
- Important for employee safety and operational communication
Asset Management System: Record of All Utility Assets

• Enables engineering, operations, maintenance, accounting to account for all assets
• Upgrade to extend the life of the system an additional 6+ years
• Targeting winter to make the necessary improvements
Distribution Management System Enhancements
Support Grid Modernization

- Outage management functionality deployed July 2020
- Current focus on distribution management functionality
  - Power flow and modeling
  - Feeder load management
  - Fault location analysis
Mobile Fieldwork System Supports KUB Field Staff

• One mobile – regardless of system generating request
• Focus on work and safety – not technology
• Takes advantage of mobile device capability
• Responsive and modular
• Developed in-house
Enhanced Outage Notifications Coming Soon

• Improves overall customer satisfaction
• Increase customer confidence and knowledge of the electric system restoration process
• Provides close to real time updates
• Saves customer time and reduces caller wait times/call volume during outage events
Customer Portal 2.0 is Now Live

- Better control of content and system performance
- Updated interactive charts now available on kub.org and KUB mobile app
- Track utility usage by day/hour
- Receive proactive alerts
Preparing for Next Generation of Customer Service Technology

• Legacy CIS will be 20-years old
• Not designed to meet current customer expectations
• Planning for a new Customer Relationship Management (CRM)
• Year of preparation before starting the project
October 21, 2021

Materials & Supply Chain Update
Widespread Supply Chain Issues

- Raw material shortages (metals, plastics, resins)
- Labor shortages
- Freight and shipping (container shortage, port congestion, etc.)
- High demand across many sectors
- Price escalation and volatility
- Energy costs (retail gas prices, crude oil prices, low inventories)
Causes

• Pandemic impacts to production and labor
• World events (Texas storms, flooding in China and Europe, etc.)
• Rapid economic recovery
• Panic buying and stockpiling of materials
• Pandemic resurgence
KUB Impacts

• Material shortages
• Price increases
• Unfavorable bidding environment
• Delayed or deferred work
• Volatility
Our Mitigation Efforts

• Enhanced communication and reporting
• Categorization and prioritization of materials and supplies
• Planning and prioritization of work
• Alternate sourcing, substitutions, work-arounds
• Increased flexibility with vendors and suppliers
Moving Forward

• Continue mitigation efforts
• Project and work deferrals when necessary
• Strategic purchasing
• Potential budget impacts