



Report

National Biosolids Partnership Biosolids Management Program Reverification Audit

Knoxville Utilities Board Kuwahee Wastewater Treatment Plant Knoxville, Tennessee

Audit Dates: December 1 to 3, 2021

Audit Conducted By: DEKRA Certification, Inc.

Report Written By: Jon Shaver, DEKRA Certification, Inc.

Report Date: December 16, 2021

Reviewed By: Drew Iles, Knoxville Utilities Board December 15, 2021

Approved By: Chris Carson, DEKRA Certification, December 16, 2021

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1. EXECUTIVE SUMMARY

DEKRA Certification, Inc. (DEKRA) conducted an independent third-party audit of the Biosolids Environmental Management System (BEMS) being used by the Knoxville Utilities Board (KUB) in managing its biosolids program. The audit was conducted onsite at KUB's request December 1 to 3, 2021 covering the full KUB BEMS and all requirements of the National Biosolids Partnership (NBP) BMP Elements. The audit was a Reverification Audit (cycle 3) for continuing DEKRA Verification and NBP Certification.

Audit Purposes

This Reverification Audit was conducted to:

- Verify that the Biosolids Environmental Management System (BEMS) being used by KUB meets National Biosolids Partnership (NBP) expectations and conforms with requirements of the NBP BMP Elements.
- Confirm that the KUB BEMS is functioning effectively, with practices and procedures being performed as documented.
- Examine outcomes KUB is achieving by using a systematic approach for managing its biosolids program.
- Verify the effectiveness of corrective action taken in response to open nonconformances from previous DEKRA third party audits.

Summary of Audit Activities and Results

DEKRA reviewed KUB's biosolids program and audited that program for conformance with expectations and requirements of the NBP Biosolids Management Program Elements and the KUB BEMS (audit criteria). The audit scope was consistent with NBP requirements, as stated in the NBP Auditor Guidance (2011).

No major nonconformances and one minor nonconformance with respect to the audit criteria were found during this audit.

Conclusions

Based on the results of this audit, DEKRA has determined that:

- Use of a management system approach is generating positive outcomes for KUB's biosolids program in the areas of regulatory compliance, environmental performance, quality practices and relations with interested parties.
- KUB biosolids practices are consistent with NBP expectations and conform to requirements of the NBP BMP Elements, with one minor exception.
- All nonconformances from prior DEKRA audits during the previous Verification Cycle have been effectively corrected and are closed.

This audit has verified that the KUB biosolids management program meets NBP expectations and requirements. We recommend continuing certification within the NBP Biosolids Management Program.

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2. AUDIT DETAILS

2A. Agency Details

Agency Name: Knoxville Utilities Board, Knoxville TN (referred to as KUB in this report)

Number of Employees = 42 KUB + 6 Synagro

Biosolids Production Sites: Kuwahee Wastewater Treatment Plant, Knoxville, TN

Volume of Wastewater Treated = 30 MGD (average); design 44MGD, capacity 120 MGD

Biosolids Produced = approx. 25,000 wet tons per year (all Class B). Solids content ranges from 24% to 26%

Biosolids Use Options: 100% agriculture land application

KUB Biosolids Program

KUB manages their biosolids program using a “Biosolids Environmental Management System (BEMS) that is guided by the NBP BMP Elements. The scope of the KUB BEMS includes activities within the full biosolids value chain, including Pretreatment, Wastewater Treatment and Solids Generation, Solids Stabilization, Dewatering, Biosolids Storage and Transportation and Biosolids Use (land application). A contractor (Synagro) is employed for managing biosolids dewatering, storage, transportation and use options under KUB supervision.

Contractors Participating in Audit

Synagro

Interested Parties Interviewed

The following interested parties were interviewed to verify the effectiveness of the Communications, Public Participation and Compliance processes.

Tim Hill – TDEC Inspector

Calvin Hoffner – Farmer & Biosolids User, Jefferson County

J. E. Mottern – Farmer & Biosolids User, Jefferson County

2B. Audit Criteria

The KUB biosolids program activities were assessed against requirement of the NBP BMP Elements (July 2011) and the KUB BEMS.

2C. Audit Team

KUB authorized DEKRA Certification Inc. to conduct this third-party audit of their biosolids program. DEKRA is an accredited Third-Party Audit Company within the NBP Biosolids Management Program. Mr. Jon Shaver was the Biosolids EMS Lead Auditor and Technical Expert on behalf of DEKRA. DEKRA and the auditor have an independent and impartial relationship with KUB that meets NBP criteria for third-party audits.

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2D. Audit Scope and Locations

The audit was consistent with NBP requirements for Reverification Audits and the Scope of Work agreed by KUB and DEKRA. It was conducted to cover all requirements of the NBP BMP Elements (July 2011), with special attention to practices and management activities that directly support biosolids-related operations, processes and activities.

The scope of this audit included the following:

- 1) Biosolids Management System Dynamics Review:
 - Significant changes affecting biosolids program
 - BEMS changes
 - Biosolids Policy (demonstrated commitment, including CoGP)
 - Effectiveness Reviews
 - Communications Program
 - Corrective & Preventive Action
 - Goals & Objectives
 - Management Reviews
- 2) Process Audits:
 - Biosolids Dewatering
 - Biosolids Storage & Transportation
 - Biosolids Use – Land Application
 - BMP Documentation
 - Competence, Awareness & Training
 - Compliance (with legal & other requirements)
 - Control of Contractors
 - Critical Control Points & Operational Controls
 - Internal Audits
 - Maintenance
 - Management Direction & Involvement
 - Pretreatment
 - Solids Stabilization, Conditioning & Handling
 - Wastewater Treatment & Solids Generation
- 3) Effectiveness review for corrective action from previous nonconformances found during the current Verification cycle.
- 4) Examination of outcomes being achieved in the areas of regulatory compliance, interested party relations, environmental performance and quality practices

Notes:

- Transactions were tested to verify the continuing health of the BEMS
- Interested party interviews were conducted to verify the effectiveness of the Communications Program, and included interviews with a representative of TDEC and two users of KUB biosolids.

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2E. Audit Methodology

The audit was conducted by a qualified auditor following guidelines stated in the NBP Auditor Guidance (August 2011). The auditor observed practices in place, interviewed key persons and reviewed pertinent documents and records using sampling techniques to assess the systematic performance of the process being audited and the consistency of biosolids management practices with written procedures. This audit is not a verification of compliance with any legal requirements applicable to biosolids practices performed by the agency or its contractors.

2F. Reference Materials

The following documents were used as references during this audit:

KUB EMS Manual (July 13, 2021)

National Biosolids Partnership "BMP Elements" (July 2011)

National Biosolids Partnership Biosolids EMS Third Party Auditor Guidance (August 2011)

National Biosolids Partnership Code of Good Practice

National Biosolids Partnership Manual of Good Practice

2G. Definitions of Audit Findings & Required Corrective Action

Major Nonconformance – a serious omission from requirements and/or other departure that represents, or could cause, a systemic failure, or the existence of multiple related minor nonconformances, or failure to effectively correct a nonconformance in a timely manner. For verification to continue, major nonconformances must be corrected and verified by third party audit within 90 days.

Minor Nonconformance – an isolated departure from requirements that does not represent a systemic failure. Minor nonconformances require timely and effective correction by the agency and verification by the third-party auditor during the next third-party audit.

Opportunity (for improvement) – a possible improvement in the management system based on audit observations. There is no obligation for action in response to these observations.

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3. SUMMARY OF AUDIT RESULTS

3A. Verification Conclusion

The Knoxville Utilities Board has been independently verified by DEKRA Certification, Inc. as having an effective biosolids environmental management system that supports continual improvement in environmental performance, meeting regulatory compliance obligations, utilizing good management practices and creating meaningful opportunities for public participation and is in conformance with requirements of the National Biosolids Partnership Biosolids Management Program.”

We recommend continuing Platinum Certification within the NBP Biosolids Management Program.

3B. Audit Findings – Nonconformances from this Audit

Minor Nonconformance JS/21-01/16 NBP BMP Element 16 requires the organization to maintain an internal audit program to periodically analyze its BMP and to determine whether it is effectively meeting its biosolids management policy, program requirements, and program goals and objectives **The internal audit conducted 9/9/21 evaluates program requirements but does not fully evaluate whether biosolids policy and goals / objectives are being met.**

Evidence – internal audit 9/9/21

3C. Status of Nonconformances from Previous DEKRA Audits

Minor Nonconformance JS/20-01/14 NBP BMP Element 14 requires the organization to Identify the cause (of nonconformances), take actions to correct the problem and document corrective actions taken to prevent a recurrence. CAPA 8/17/20 (high rain SSO) does not fully identify cause or related corrective action(s).

Corrective Action – KUB took immediate action to correct this nonconformance by revising the 8/17/20 CAPA to differentiate between cause and contributing factors. They determined this nonconformance was caused by confusion by including contributing factors as a root cause.

This cause was corrected by revising the Corrective Action process to clarify contributing factors and causes. The Dekra auditor reviewed the completed correction and corrective action and found these have been effectively implemented. This nonconformance is now closed.

Minor Nonconformance JS/19-01/15 NBP BMP Element 15 requires the organization to complete a written BMP performance report summarizing the performance of its BMP. The report shall provide summaries of internal BMP audit results. The 2018 Biosolids Program Performance Report does not include a summary of internal audit results.

Corrective Action – Corrective action for this nonconformance was reviewed during the 2020 interim audit. The Dekra auditor reviewed the completed correction and corrective action as part of the Reverification and found this nonconformance continues to be effectively corrected.

Minor Nonconformance JS/17-01/5

NBP BMP Element 5 i the organization to the establish and periodically review measurable objectives for its biosolids management activities to continually improve the performance of its BMP. 6 of 9 biosolids objectives established for 2017 are not sufficiently measurable to identify intended improvement (e.g. “collect more qualitative data from famers”).

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Corrective Action – Corrective action for this nonconformance was reviewed during the 2020 interim audit. The Dekra auditor reviewed the completed correction and corrective action as part of the Reverification and found this nonconformance continues to be effectively corrected.

Minor Nonconformance JS/17-02/14 NBP BMP Element 14 requires the organization to develop and implement a procedure to investigate nonconformance with internal BMP procedures, take actions to correct the nonconformance and document corrective actions taken to prevent a recurrence. Review of completed corrective actions does not consistently verify the effectiveness of the action to ensure problems do not re-occur. In addition, the responsibility and timing for corrective actions is not always stated in the CAR Plans

Corrective Action – Corrective action for this nonconformance was reviewed during the 2020 interim audit. The Dekra auditor reviewed the completed correction and corrective action as part of the Reverification and found this nonconformance continues to be effectively corrected.

3D. Interested Party Interviews

A TDEC Biosolids Inspector and two biosolids users were interviewed as part of this audit. All 3 were complimentary about communications and service provided by KUB and Synagro. The biosolids users expressed a desire to continue to use KUB bioaolids on their land that is used to produce fescue grass and hay. The process for interested party input and communications was found to be functioning effectively.

3E. Appeals

The NBP provides an appeal process for biosolids organizations and interested parties that disagree with the Verification conclusion of a third-party audit. The appeals process involves an Appeals Board; representing a balance of biosolids management interested parties, including an environmental advocacy group and wastewater industry professionals. An appeal must be submitted within 30 days of Dekra's Reverification decision. Information about the appeals process is available from the National Biosolids Partnership. Contact Ms. Maile Lono-Batura at (MLono-batura@wef.org).

3F. Agreements

KUB and DEKRA have agreed that the next audit, an Interim Audit (#3-1), will occur by December 2022, with exact timing to be agreed in advance. The scope will be consistent with the Interim Audits Program agreed by KUB and the Lead Auditor and NBP requirements. KUB will make arrangements for this audit with Dekra.

3G. Additional Information

Further information about this audit and/or the National Biosolids Partnership BMP can be obtained from Knoxville Utilities Board by contacting Ms. Drew Iles at drew.iles@kub.org.

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4. BIOSOLIDS MANAGEMENT PROGRAM DYNAMICS

Review of the biosolids management program dynamics and outcomes is conducted to verify that the biosolids management program is functioning effectively and generating positive outcomes (results) and that changes are being incorporated consistent with requirements. The following summarizes DEKRA's review of the dynamics of the KUB Biosolids EMS.

4A Significant Changes

Significant changes affecting the KUB biosolids program since the previous Dekra audit include:

- Chris Thomas has become Plant Manager, replacing Josh Jonson who has been assigned to different duties
- Sam Moore has become Regional Manager for Synagro, replacing Bill Bailey who has retired.
- A Biologically Enhanced High Rate Clarifier (BEHRC) is being installed to handle high rain events

4B Revisions to the Management System

Minor changes were made in the KUB Biosolids EMS that did not significantly affect operation or control of the management system.

4C Biosolids Policy Commitments

The KUB Biosolids Management Policy remains as previously approved. It was reviewed and approved 7/13/21. The Policy includes a commitment to meet the NBP Code of Good Practice. Review of performance in meeting commitments made in that Policy demonstrated it has been incorporated into the Biosolids Management Program and that continual improvements are occurring.

4D Strengths Identified During this Audit

- Effective cooperation & communication between KUB & Synagro
- Focus on improving operations (volatile solids, energy efficiency, digester operation)
- Excellent housekeeping in plant areas

4E Examination of Outcomes

The KUB Biosolids EMS is improving through the use of a systematic approach to managing biosolids activities. The following improvement outcomes within the past two years were confirmed.

Relations with Interested Parties

- Increased feedback from public in social media platforms; - 459 unique visitors to website in 2021 vs 380 in 2020; increased feedback from biosolids users – post application surveys – 9 responses in 2021 vs 3 in 2020

Regulatory Compliance

- Volatile solids reduction 50% and above in 2020 & 2021 (compared to 38% minimum for compliance) leads to more consistent digester feed.

Environmental Performance

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- Addition of new boilers has significantly improved energy efficiency and led to consistent heating of solids going to digesters.
- Volatile solids reduction much higher in past 2 years – less emission of volatiles

Quality Practices

- Emphasizing 45 day trends in digester operation allows operators to understand and better predict possible changes (volatile solids, % solids)
- The “project close-out” procedure is well used and leading to collaboration between Engineering, Maintenance & Operations

4F Use of NBP Certification and DEKRA Verification

Use of and references to NBP Certificate and DEKRA Verifications were reviewed. There were no concerns.

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5. BEMS EFFECTIVENESS REVIEWS AND PROCESS AUDITS

5A. Effectiveness Reviews

Biosolids Goals and Objectives Process

Long term goals are set by management team addressing regulatory compliance, environmental performance, quality, relations with interested parties. 13 objectives for 2021 were achieved or in progress. Goals and Objectives process is working effectively.

Biosolid Policy

Policy in place & approved by Senior VP. Latest Policy dated 7/13/21 includes commitment to NBP Code of Good Practice.. Consistency with Code of Good Practice demonstrated.

Corrective and Preventive Action Process

The Corrective and Preventive Action process was used to address nonconformances from previous Third-party Audits and internal audits. The process is working effectively. See Opportunities for Improvement below.

Management Review

Management involvement has been demonstrated through actions taken regarding issues raised in management reviews and programs for measurement and improvement. The actions taken are consistent with defined objectives. Follow-up actions are recorded. The Management Review process is functioning effectively. See Opportunities for Improvement below.

5B. Process Audits

DEKRA audited the following processes that KUB uses within its biosolids management program and determined the level of conformance of each process with NBP expectations and requirements of the audit criteria.

Documentation Review

Interviewed: Drew Iles - Biosolids Coordinator

KUB provided the Lead Auditor with a copy of the current BEMS Manual. Review of this document demonstrated that it meets NBP Documentation requirements (BMP Element 1). \$ Opportunities for improvement were noted. Process is effective and meets requirements.

Biosolids Dewatering (incl contractor control)

Interviewed: Sam Moore – Synagro Regional Manager

Biosolids dewatering (centrifuge) done by contractor (Synagro) under contract with KUB. KPIs in place (e.g. tons per hour processed). Process Control Points & operation controls are in place, including SOPs/WIDs (Operating Procedures). Control of operations verified, particularly addition of cationic polymer. Operator competence & skills up to date, including annual BEMS training and Synagro. Process is effective and meets requirements.

Biosolids LanUse – Land Application

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Interviewed: Daniel Dodson - Technical Service Specialist (Synagro)

Biosolids use done by contractor (Synagro) under contract with KUB. All biosolids land applied on permitted sites (confirmed by TDEC) with agreement from farmer. Buffers in place. Agronomic calculations by Synagro. Set backs in place & followed. Land applications inspected for conformance by KUB. Internal audits include contracted operations. Process is effective and meets requirements.

Biosolids Storage & Transportation (incl contractor control)

Interviewed: Sam Moore – Synagro Regional Manager, Johnny Witt - driver

Biosolids storage and transportation done by contractor (Synagro) under contract with KUB. No storage at KUB plant – product can be temporarily stored at farm sites where it will be used. Farmers aware and complimentary. Transportation SOP, Spill Response SOP, Truck Loading SOP in place (all approved by KUB). Synagro maintains trucks using preventive maintenance. Process is effective and meets requirements.

Competence, Awareness & Training

Interviewed: Drew Iles - Biosolids Coordinator, Steve Clettenburg – Operations Manager

Operator qualification program in place, including certification and training. Annual EMS training for all employees involved in biosolids, including Synagro. Process is effective and meets requirements..

Communications Program

Interviewed: Cortney Roark Communications Team Lead

The KUB Communications Program includes proactive methods for communicating with interested parties, including the public and regulators. Communications occurs through public presentations and an interactive website. Inquiries from social media and the KUB website increased in 2021 (compared to 2020). No odor complaints in past 2 years. Biosolids Program Performance Report for 2020 was issued publicly in July 2021. The public was offered an opportunity to attend this Verification Audit, however no observers attended. Interested parties interviewed during this audit noted that effective and useful channels of communication are in place.. Process is effective and meets requirements.

Compliance (with legal & other requirements)

Interviewed: Drew Iles - Biosolids Coordinator, Steve Clettenburg – Operations Manager

Legal requirements for biosolids program identified on list of Legal and Other Requirements. List includes TDEC permits, EPA regulations and OSHA regulations. Identification and application through discussions with TDEC. NPDES permit renewed in 2019. Other requirements include voluntary levels for key quality measures (e.g. volatile solids reduction, e-coli). If noncompliances occur they are addressed by the Corrective Action Process. Internal audits include verification of compliance. Process is effective and meets requirements.

Control of Contractors

Interviewed: Drew Iles - BEMS Coordinator

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Synagro operate centrifuge dewatering and biosolids transportation, storage and use on behalf of KUB. These operations are considered to be an integral part of the KUB BEMS. Synagro representatives attend regular meetings with KUB management to maintain and improve the BEMS. KUB conducts monthly inspections for biosolids land application sites. A contract (signed 4/27/20) is in place covering each party's responsibilities. Process is effective and meets requirements.

Critical Control Points & Operational Controls

Interviewed: Drew Iles - BEMS Coordinator

Process control points identified in table ("Process Control Points") that includes risk for environmental impacts, compliance obligations, biosolids quality, interested party relations. Operational controls identified. Process is effective and meets requirements..

Emergency Preparedness

Interviewed: Drew Iles - BEMS Coordinator, Lesley Glover – Analyst, Chris Thomas – Plant Manager

Emergency Preparedness plans in place, including Emergency Action Plan, Biosolids Spill Response Plan, Wastewater Emergency Response Plan. Sewer Overflow Response Plan. Equipment in place for responding to emergencies onsite and offsite. Spill Response Plan by Synagro also approved by KUB. Incident Command Structure in place. All operators qualified by annual Hazwoper Training. Process effective except for one minor nonconformance (21-01).

Maintenance

Interviewed: Hannah Claytor – Maintenance Supervisor

Maintenance purpose is to maintain equipment reliability & minimize downtime. Preventive maintenance in place. Target 90% pm completed on time (actual is 88%). Labor hours used to assess reliability (actual 55% vs target 60%). Maintenance contractors qualified by experience & journeyman licenses. SOPs in place for key maintenance activities. Process is effective and meets requirements.

Internal Audits

Interviewed: Kelsey Campbell – Regulatory Specialist, Christa Davis – Regulatory Specialist

Internal audits were conducted as planned in 2020 and 2021. The most recent audits conducted 9/9/21 covering the full BEMS Program. No "findings" and 5 "opportunities" were found. The Internal Process is effective and meets requirements, except for one minor nonconformance (21-02).

Management Involvement (direction, BMP planning, responsibilities)

Interviewed: John Gresham - Sr VP.

Plant management directs biosolids program. Intended outcomes include remaining above and beyond regulatory compliance, focus on biosolids improvement, environmental performance (including beneficial reuse) , positive public perception and continual improvement. Management reviews conducted semi-annually to review performance and identify opportunities for improvement. The most recent anagement Review was conducted 11/9/21. Process is effective. See Opportunities for Improvement below. Process is effective and meets requirements.

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Pretreatment

Interviewed: Lesley Glover - Analyst

PCPs & operational controls identified & understood. Industrial permits issued and inspections performed. NOVs if necessary with follow-up by KUB. Grease control program includes permits for commercial users. Public education re emerging contaminants. Follow EPA Roadmap for PFAS. Process includes septage deliveries to plant by qualified haulers. Process is effective and meets requirements.

Wastewater Treatment & Solids Generation

Biosolids Stabilization, Conditioning

Interviewed: Thomas Pucci – Lead Operator

Audit conducted by walking (remote camera) in parts of the plant and speaking with Lead Operator. Wastewater treatment includes primary and secondary treatment, chlorine disinfection and neutralization. PCPs in place; operational controls in place including SCADA and WIDs. Solids conditioning includes thickening (GBT) and digestors. Target 4 – 5% solids after GBT being met. Newly installed boiler preheats water which is used to heat biosolids before entering digester. PCPs & operational controls in place. Boiler operation checked – temperature 198F vs set point 195F controlled by PLC. Volatile solids reduction 50% vs regulatory requirement 38%. Operators qualified (State license) and trained (e.g. new boiler training). Process is effective and meets requirements.

5C. Summary of Conformance Results

Process	Applicable BMP Elements	Conformance
Biosolids Dewatering	3,10,13	Process is effective & conforms with requirements
Biosolids Storage & Transportation	3,10,13	Process is effective & conforms with requirements
Biosolids Use – Land Application	3,10,13	Process is effective & conforms with requirements
BMP Documentation	1	Process is effective & conforms with requirements
Communications Program	6, 9, 15	Process is effective & conforms with requirements
Competence, Awareness & Training		Process is effective & conforms with requirements
Compliance (with legal & other requirements)	4, 14	Process is effective & conforms with requirements

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Process	Applicable BMP Elements	Conformance
Control of Contractors	various	Process is effective & conforms with requirements
Critical Control Points & Operational Controls	3, 10, 13	Process is effective & conforms with requirements
Emergency Preparedness	11	Process is effective & conforms with requirements, except as stated in Minor Nonconformance 21-01
Internal Audits	14, 16	Process is effective & conforms with requirements, except as stated in Minor Nonconformance 21-02
Maintenance	3,10,13	Process is effective & conforms with requirements
Management Direction & Involvement	7, 17	Process is effective & conforms with requirements
Pretreatment		Process is effective & conforms with requirements
Solids Stabilization, Conditioning & Handling	3,10,13	Process is effective & conforms with requirements
Wastewater Treatment & Solids Generation	3,10,13	Process is effective & conforms with requirements

5D. Opportunities for Improvement

The following “opportunities” for improving the KUB BEMS were noted during the audit. Opportunities do not represent nonconformances and KUB has no obligation to take any action in response to them.

- Risk(s) associated with “public acceptance of KUB Biosolids” noted in the Critical Control Points & Operational Control Table could be more clearly relate to necessary operational controls.
- Consider including a discussion of environmental impacts / risks in WIDS and SOPs
- Action resulting from internal audits could state whether the action is required and responsibilities & timing for actions

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- Management Reviews could include evaluation of the suitability, adequacy & effectiveness of the BEMS, particularly related to progress in achieving intended outcomes (goals) of the BEMS
- Review requirements for emergency preparedness and response procedures could be defined and followed to ensure the plans are up to date
- Consider developing a procedure for initiating and addressing corrective action(s).
- In BEMS Manual, consider specifically stating:
 - intended outcomes (desired results) of the BEMS (at the beginning of the manual)
 - how KUB ensures necessary human, technical, and financial resources are provided
 - that contractor operations are fully within the scope of the BEMS
 - CAPA procedure could note that action items need to include responsibility and timing

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APPENDICES

List of Participants

The following persons participated in this audit. Other persons provided additional explanations, as necessary.

KUB Personnel

Kelsey Campbell	Regulatory Specialist
Hannah Claytor	Maintenance Manager
Steve Clettenburg	Wastewater Supervisor
Christa Davis	Regulatory Specialist
Lesley Glover	Pretreatment Coordinator
John Gresham	VP Plant Operations
Drew Iles	Biosolids Coordinator
Josh Johnson	System Operations Manager
David Obenschain	Business Management Analyst
Thomas Pucci	Wastewater Team Lead
Chris Thomas	Plant Operations Manager
John Urbano	Business Management Analyst

Contractor Personnel

Daniel Dodson	Technical Specialist (Synagro)
Sam Moore	Operations Manager (Synagro)
Johnny Witt	Transportation Driver (Synagro)

Interested parties

J. E. Mottern – Farmer (biosolids user) Jefferson Counties
Calvin Hoffner – Farmer (biosolids user) Jefferson Counties
Tim Hill – TDEC Inspector

List of Documents & Records Reviewed

Annual biosolids training program 2021
Audit checklist (9/9/21)
BEMS Manual 7/13/21
Biosolids Policy 7/13/21
Biosolids Spill Plan (on Synagro truck) 9/27/21
BMP Performance Report for 2020 (July 2021)
Boiler temperature information (12/2/21)
CAPA 8/17/20
CAPA examples (various)
Contractor performance assessment (11/15/21)
Emergency action plan 2/12/19
Goals & Objectives 2021, 2020

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Hands on training for chlorine 7/28/20
Hazwoper training certificate T Pucci(4/19/21)
Incident command structure – chlorine
Incident command structure – wet weather event
Internal audit report 9/9/21
Internal audit schedule 2019-2021
KUB contractor inspections (various)
Legal and other requirements 11/12/21
Management Review 11/9/21
Maximo training refresher (June 2021)
Monthly PM for GBT
Notice & Necessary Information (8/31/21)
NOV for industrial user 5/21/21
ORG 4/14/21
PM schedule
Post application Questionnaire 1/15/21, 2/3/21
Process Control Points & Operational Controls table 11/29/21
Project close-out form re heater 8/23/19
Public input record
SDS for Zetag polymer
Sewer Overflow response plan (May 2011)
SMSP Maintenance strategy
SOP – analyze GBT 1/12/21
SOP – Centrate sampling 9/27/21
SOP- Grinder inspections 5/26/21
Tennessee Field Report (March 2021)
Video – boiler training by vendor (Nov 2019)
Video re biosolids (on KUB website)
Weekly meeting minutes (various)
Weekly PM metrics (11/28/21)
WID – Thickener Operation (5/11/21)

END OF REPORT