National Biosolids Partnership
Biosolids EMS Audit Report

Interim Audit

Kent County Department of Public Works
Dover, Delaware

Audit Dates: November 15 to 18, 2010

Audit Conducted By:

KEMA-Registered Quality, Inc. (Chalfont, PA)

Audit Team: Mr. Jon Shaver, Certified Biosolids EMS Lead Auditor / Biosolids Auditor

Report Written By: Jon Shaver, Biosolids EMS Lead Auditor

Report Date: November 28, 2010

Reviewed By: Jim Newton, Kent County Department of Public Works

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Kent County Department of Public Works, Dover Delaware
Interim Audit, November 18, 2010

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1. SUMMARY

KEMA-Registered Quality Inc. (KEMA) conducted an independent audit of the environmental management system (EMS) being used by Kent County Regional Wastewater Treatment Facility (KCRWTF) in managing its biosolids program. The audit was conducted November 18, 2010 at the request of Kent County Department of Public Works (Kent County) and was an interim audit following verification of the Kent County biosolids program in October 2005.

The purposes of this audit were to:

- Verify that the biosolids EMS being used by KCRWTF conforms to expectations and requirements of the National Biosolids Partnership (NBP) *Environmental Management System for Biosolids*, comprised of 17 EMS Elements
- Confirm that the KCRWTF biosolids management program is functioning as intended, with practices and procedures being performed as documented.
- Examine outcomes KCRWTF is achieving by using a systematic approach for managing its biosolids program.

This audit was conducted as an integrated audit covering applicable requirements of ISO-14001 and OHSAS-18001 and the NBP Biosolids EMS Elements.

Consistent with NBP requirements for interim audits, KEMA reviewed the dynamics of the management system being used by Kent County in managing its biosolids program and parts of that system for conformance with expectations and requirements of the National Biosolids Partnership EMS Elements (audit criteria). The scope of the audit was consistent with the interim audit program agreed upon by Kent County and KEMA.

The audit determined that:

- The KCRWTF biosolids management system is generating positive outcomes, particularly in energy reduction initiatives.
- No major nonconformances and five minor nonconformances were found during this audit with respect to the audit criteria and corrective action plans are in place to address those nonconformances. No nonconformances from prior third party audits remain open.
- Several “opportunities for improving the effectiveness of the management system were noted.

Based on results of this audit, KEMA will continue our verification that the Kent County biosolids management system meets the expectations and requirements of the NBP EMS Elements. We recommend continuing certification of that management system within NBP’s Biosolids Management (EMS) Program.

2. AUDIT DETAILS

2A. Local Agency Details

Agency Name: Kent County Department of Public Works (referred to as Kent County)

Number of Employees = 50

Biosolids Production Sites Audited: Kent County Regional Wastewater Treatment Facility, Milford DE

Volume of Wastewater Treated = 15 MGD (not to exceed)

Biosolids Produced = approximately 8000 dry tons per year (100% Class A)

2B. Audit Team

Mr. Jon Shaver conducted the audit for KEMA. Mr. Shaver is certified by NBP as a Biosolids EMS Lead Auditor and Biosolids Auditor. KEMA and the auditor assigned to this audit have an independent relationship with Kent County that meets criteria established by the National Biosolids Partnership for Third Party Audit Companies and Auditors.

2C. Audit Scope and Methodology

The scope of this audit covered parts of the Kent County biosolids program, with special attention to practices and management activities that directly support biosolids-related operations, processes and activities.

The audit covered the following topics, consistent with NBP requirements for biosolids EMS interim audits and the overall audit program agreed to by KEMA and Kent County.

1. Review of significant changes
2. Management System Dynamics / Effectiveness Review
3. Management of significant changes
   - Process Audits (covering all applicable requirements of the NBP EMS Elements)
   - Biosolids operations (incl stabilization, conditioning and handling)
   - Communications program
   - Compliance (with legal and other requirements)
   - Corrective & preventive action (incl accidents, incidents)
   - Critical Control Points & Operational Controls
   - Document control & recordkeeping
   - Emergency preparedness
   - Engineering & construction
   - Maintenance – Plant
4. Examination of outcomes being achieved by Kent County in the areas of regulatory compliance, interested party relations, environmental performance and quality practices.

The audit was conducted by interviewing key personnel involved in the KCRWTF biosolids program, observing practices in place and reviewing pertinent documents and records. Interested parties were interviewed and transaction tests were performed to verify management system effectiveness. It was performed in a manner that is consistent with the NBP Auditor Guidance (August 2007). Standard audit sampling techniques were employed.

2D. 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 any nonconformance in a timely manner. For verification to proceed, correction of major nonconformances must be verified by a 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 a Third Party Auditor during the next third party audit.

Opportunity (for improvement) – possible improvement in the EMS based on auditor observations. There is no obligation for action in response to these observations.

2E. Appeals

The NBP provides an appeals process for biosolids organizations and interested parties that disagree with the findings of a third party EMS audit. The verification 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 the official verification decision or interim audit decision by the Audit Company. Anyone who may need help in understanding the appeals process should contact the National Biosolids Partnership staff, Mr. Jim Cox by e-mail at jcox@wef.org.

An appeal process is available to persons concerned about the methods and/or scope of this audit. Further information about this appeal process can be obtained directly from KEMA (contact Pierre Salle, pierre.salle@kema.com or Jon Shaver jon.shaver@kema.com) or from NBP (contact Jim Cox, jcox@wef.org).

2F. Reference Materials

The following documents were used as references during this audit:

Kent County EHSS EMS Manual (current version)
National Biosolids Partnership “EMS Elements” (May 2002)
National Biosolids Partnership Biosolids EMS Third Party Auditor Guidance (August 2007)
National Biosolids Partnership Code of Good Practice
National Biosolids Partnership Manual of Good Practice

3. SUMMARY OF AUDIT RESULTS

3A. EMS Strengths

During this audit KEMA noted the following strengths in the Kent County biosolids management system.

- Operations Supervisors and Operators are well aware of the EHSS MS and its fundamental requirements.
- Significant EHS improvements have been made in the past 2 years and/or are being planned – chlorine & SO2 removal, energy use reduction, waste heat capture (for admin bldg heat), greenhouse gas reduction, communication with neighbors
- The internal audit performed in 2010 was concise and provided useful findings.

3B. Nonconformances

Five nonconformances with respect to requirements of the NBP EMS Elements were found during this audit. Kent County has prepared corrective action plans to address each nonconformance and KEMA's Lead Auditor has reviewed those plans. Effective correction of the nonconformances will be verified during the next Third Party Audit. The nonconformances found are listed below. Note – numbering not sequential since nonconformances found solely related to other standards are not included.

Minor Nonconformance JS/10-03 Biosolids EMS Element 12 requires that documents requiring control be approved before use. There is no approval noted on written operating procedures being used in the wastewater treatment operation.

Minor Nonconformance JS/10-05 Biosolids EMS Element 12 requires control of records used to demonstrate conformity. The list of records requiring control noted in the EHSS MS Manual does not include records for personnel competency, equipment calibration, or Biosolids Program Performance Report and does not identify what records associated with "biosolids operations" and "lab operations" require control.

Minor Nonconformance JS/10-07 NBP EMS Element 11 requires that emergency procedures be in place to address potential environmental impacts. Some EHS aspects (such as security, drowning, severe weather events, contractor emergencies) are not referenced in the Emergency Preparedness procedures.

Minor Nonconformance JS/10-06 NBP EMS Element 8 requires that persons working on behalf of the organization be made aware of the importance of conforming with the EHS Policy and requirements of the management system. George & Lynch personnel working regularly at the KCRWTF site have not received EHSS MS training and are not made aware of their responsibilities within the EHSS MS.

Minor Nonconformance JS/10-08 NBP EMS Element 1 requires that the organization document its management system. The Kent County EHSS MS manual does not fully reflect actual practices in some areas audited, including:

- Emergency preparedness describes some plans and some procedures but does not fully discuss "preparedness" requirements
- The use of Corrective Action Process to address employee suggestions is not described
- The link between corrective action and management of change processes does not include determination of need for EHS risk analysis
- Description of the Management Review process does not correctly state how the status of corrective and preventive actions are reviewed
- The EHSS MS procedure for controlling documents could elaborate on "as necessary" for reviewing controlled documents
- The Management of Change procedure (EHSS MS 5.1) does not include assigning responsibilities for steps in planning a change

3C. Opportunities for Improvement

The following "opportunities" for improving the Kent County biosolids program were noted during the audit. Opportunities do not represent nonconformances and Kent County has no obligation to take any action in response to them.

Management Review

Management review records (e.g. 9/16/10) could include a summary description of topics discussed rather than a checklist stating that the topics were addressed.

Internal Audits

Internal audit results could be presented in an Executive Summary that relates results to the purpose of the audit.

Biosolids Operations

Operating logs in biosolids preparation area could note "not in service" (or equivalent) for days in which the unit was not in operation.

Maintenance

Consider renaming and controlling "waste" oil and "waste" antifreeze cleanup in Shop to avoid special waste removal requirements.

A spreadsheet or database could be used to track equipment maintenance and lead to a predictive maintenance approach.

Critical Control Points & Operational Controls

Critical control points could be more directly related to operations by adding clarifiers, disinfection and discharge for wastewater treatment operation.

Written operating procedures could include actions for shutdown, startup and emergency operation and description(s) of consequences of deviating from established criteria.

The "what-if" analysis used in identifying safety impacts could also be used as background in identifying environmental impacts.

Communications Program

A brief description of KCRWTF events and plans could be communicated externally through the Levy Court Community Newsletter.

Input from interested parties near the KCRWTF indicates that more information about KCRWTF plans and activities could be provided to neighbors.

Discussion with land owners (in addition to tenant farmers) prior to land applying biosolids could help in maintaining positive opinions about this use of biosolids.

Safety Related Opportunities

The Lockout / Tagout procedure being used could include reference to hazardous energy in addition to electrical (e.g. pneumatic, hydraulic).

The Safety Committee could be used to determine if action arising from incident investigations needs to be tracked via the corrective and preventive action process.

Some areas / equipment could be labeled (NFPA or similar) to alert personnel. Examples – COD container in lab, storage area for laboratory waste, Urea tank, antifreeze tank in Shop.

Temporary covers on walkways over basins in UV disinfection area could be secured for improved safety.

3D. Verification Statement

Based on the results of this audit, KEMA has verified that the Kent County biosolids management system continues to meet the expectations and requirements of the National Biosolids Partnership Biosolids EMS Program. Continuing certification within the NBP Biosolids Management Program is recommended.

3E. Agreements

Kent County and KEMA have agreed that a Reverification will occur in November 2011. That audit can be conducted as a third party audit and will coincide with planned Certification Renewal Audits for ISO-14001 and OHSAS-18001 and be conducted as an integrated audit. Kent County will make arrangements for that audit with KEMA.

4. MANAGEMENT SYSTEM DYNAMICS AND OUTCOMES

Review of the management system dynamics and outcomes is intended to verify that the bioslids management system is functioning effectively and generating positive outcomes (results) and that changes are being incorporated into the system. The following summarizes KEMA's review of the dynamics of Kent County's biosolids management system.

4A Significant Changes

The following significant changes affecting the Kent County EHSS MS were completed in 2010:

- Transitioning from chlorine disinfection to UV
- Installation of an elevated water supply tank
- Installation of new motor control equipment in biosolids production areas
- Elevating air supply piping

Implementation of these changes within the Kent County EHSS MS was reviewed during this audit (transaction tests). An effective management of change procedure was used to plan and install each change.

Several significant changes are currently planned and under construction and expected to be operational in 2011. These changes include:

- Addition of photovoltaic energy generation equipment (solar panels)
- Installation of floating weirs for controlling discharge water
- Installation of passive solar biosolids dryers
- Installation of equipment to recover waste heat from effluent water

The above projects will be included in the scope of future audits at KCRWTF as they near completion.

4B Outcomes

The Kent County biosolids program is improving through the use of their management system. The following outcomes within the past two years were confirmed.

<u>Regulatory Compliance</u>

Installation and use of UV disinfection has removed the use of chlorine and sulfur dioxide at KCRWTF, thus significantly lowering environmental, health and safety risk and reducing regulatory requirements.

<u>Environmental Performance</u>

Attention to operation of dryers has resulted in 15% efficiency improvement, with lower energy use and less chemical use. Savings estimated at $50K/year.

Solids content in biosolids cake has increased from 16% (average) to 22% in past 2 years, resulting in lower fuel use for transporting solids.

<u>Quality Practices</u>

Improved phosphorous removal in wastewater has improved nutrient content in biosolids used for agriculture land application.

Interested party Relations

The success of KCRWTF programs and communication with regulators and county officials has improved credibility, leading to approval for significant capital expenditure ($15 million).

4C Management System and Documentation Revisions

Major changes to the EHSS MS Manual, top level documentation and major processes within the biosolids management system were reviewed. There were no structurally significant revisions.

4D Review of Biosolids Policy Commitments

Kent County EHS Policy was modified in 2009 to include a commitment to sustainability. The change was communicated internally and objectives and targets were developed to address the new commitment. The Policy includes a commitment to follow the principles of the NBP Cde of Good Practice. The following sumarizes KEMA's review of of Kent County's operational consistency with that commitment

Compliance – Required regulatory reports are submitted on time. The State Biosolids Regulator confirmed he is satisfied with Kent County's biosolids program.

Product – Kent County' tests their biosolids product (Kentorganite) to confirm it meets Class A requiremnts. Users are satisfied with the product.

Environmnetal Management System – An integrated "Environmnetal, Health, Safety and Sustainability Management System" is in place. Annual audts verify it meets requirements of ISO-14001:2004, OHSAS-18001:2007and NBP EMS Elements.

Quality Monitoring and Practices – Bioslids quality is monitored through routine testing. Good housekeeping practices are ensured through routine inspections by Operators.

Emergency Plans – Emergency plans are in place and tested periodically.

Sustainable Management Practices – The EHSS MS is designed to ensure environmnetally acceptable biosolids practices and operations. Procedures are in place for ensuring sustainability.

Preventive Maintenance -. Practices for preventive maintenance are in place. An asset management program is being prepared.

Communications – Proactive communications with interested parties occurs through public meetings and the website. Regular internal comunications occurs through staff meetings and ongoing supervision.

Continual Improvement – The agency is committed to continually improving environmental, health and safety performance. Examples of improvements are discussed in Section 3 of this report (Outcomes).

4E Communications Program

The Kent County Communications Program includes proactive methods for communicating with interested parties, including the public and regulators. Communications occurs through public meetings (e.g. Sewer Advisory Board, Levy Court meetings) and through the Kent County website. Internal communications occurs through regular staff meetings and periodic meetings wit onsite contractors.

4F Progress Towards Biosolids Goals and Objectives

Eight of nine objectives for 2009 / 2010 were achieved. New objectives are in place for continually improving performance. The Goals and Objectives process is working effectively.

4G Internal Audits

Internal audits conducted since the previous Third party Audit were reviewed. The most recent internal audit of the Kent County EHSS MS was conducted 9/30/10 and results were discussed by the Core Team. Corrective action plans are in place to address findings from that audit.

4H Management Involvement (includes 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. The Core Team, comprised of senior managers, meets semi-annually to review the performance of the EHSS management system. Follow-up actions are recorded.

4I Corrective and Preventive Action

The Corrective and Preventive Action process was used to address nonconformances from previous KEMA Third Party Audits. Those nonconformances were effectively corrected (see below).

4J Correction of Nonconformances From Previous Third party Audits

Corrective action taken in response to nonconformances from previous Third party Audits of the Kent County Biosolids Management System and the status of those nonconformances are sumarized below.

Minor Nonconformance JS/09-02 NBP EMS Elements require progress in achieving objectives to be monitored and measured. Some objectives and targets (e.g. TMDL results, energy reduction) are not being presented at management reviews in a measurable way.

Corrective Action - KCRWTF determined that the cause of this nonconformance was lack of measurability in determining some objectives / targets. In response they updated the objectives in place for 2010 and 2011 to show more measurable targets and included a review of progress against those targets in a management review conducted 4/23/10. For instance, measurements

are taken and reviewed to assess progress in meeting TMDL targets for phosphorus and nitrogen. This nonconformance is now closed.

Minor Nonconformance JS/09-03 NBP EMS Elements require a procedure be established, implemented and maintained for receiving, documenting and responding to relevant communication from external interested parties. There is no documented procedure for receiving, documenting and responding to relevant communication from external interested parties and some inquiries (e.g. truck traffic, biosolids land permitting) and responses were not recorded.

Corrective Action - KCRWTF determined that the cause of this nonconformance was a lack of complete implementation of their complaint procedure. In response they modified the procedure for external communication, including response to external inquiries. These inquiries now go to the Administrative Assistant for handling and tracking with a log to show action taken and feedback. This nonconformance is now closed.

Minor Nonconformance JS/09-04 NBP EMS Elements require control of management system documents. Some SOPs in use are in "draft" form (i.e. no final approval), some (such as confined space entry procedure) have more than one version in place and some (e.g. EHSMS Manual) do not have pages identified, dated or numbered.

Corrective Action - KCRWTF determined that the cause of this nonconformance was an oversight by the reviewer of SOPs. A large project is underway to review and update all SOPs to ensure they reflect correct practices and the draft notation on some SOPs is being removed as the reviews are completed. While this nonconformance remains open, there is sufficient progress being made in correcting it and follow-up will occur at the next KEMA audit to review the effectiveness of the action taken.

Minor Nonconformance JS/09-05 NBP EMS Elements require that management reviews the effectiveness of the management system. Some management review records do not summarize EHS performance or information supporting assessment of performance.

Corrective Action - KCRWTF determined that the cause of this nonconformance was a lack of recording some discussions that actually occur during management reviews. In response they modified their management review recording procedure. Records of a management review conducted on 4/23/10 include results of discussion about the suitability, adequacy and effectiveness of the EHS management system. This nonconformance is now closed.

4K Audit Conclusion – Management System Dynamics

Review of the dynamics of the Kent County Biosolids Management System confirmed that it is generating positive outcomes and functioning effectively, except as noted below:

Minor Nonconformance JS/10-08 NBP EMS Element 1 requires that the organization document its management system. The Kent County EHSS MS manual does not fully reflect actual practices in some areas audited, including:

- Emergency preparedness describes some plans and some procedures but does not fully discuss "preparedness" requirements
- The use of Corrective Action Process to address employee suggestions is not described

- The link between corrective action and management of change processes does not include determination of need for EHS risk analysis
- Description of the Management Review process does not correctly state how the status of corrective and preventive actions are reviewed
- The EHSS MS procedure for controlling documents could elaborate on “as necessary” for reviewing controlled documents
- The Management of Change procedure (EHSS MS 5.1) does not include assigning responsibilities for steps in planning a change

In addition, the following opportunities were noted:

- Management review records (e.g. 9/16/10) could include a summary description of topics discussed rather than a checklist stating that the topics were addressed.
- Internal audit results could be presented in an Executive Summary that relates results to the purpose of the audit.

5. OBSERVATIONS + RESULTS - PROCESS AUDITS

The following describes the results of KEMA's audit of processes Kent County uses in managing biosolids activities and the level of conformance of each process with applicable requirements of the EMS Elements.

5A Biosolids Preparation

Solids from wastewater treatment are filtered (belt filter press), stabilized with lime, dried and conveyed to a covered storage area. Critical controls points are identified, up to date and consistent with NBP Manual of Good Practice. Operational controls have been developed, including operator skills and Work Instructions, including a link to regulatory requirements and identified significant environmental impacts. Roles and responsibilities are defined and understood and a process is in place for ensuring Operator competency, including State Certification. Contractors do not participate in this process.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

In addition, the following opportunities were noted:
- Operating logs in biosolids preparation area could note "not in service" (or equivalent) for days in which the unit was not in operation.

5B Communications Program

A proactive approach is in place for communicating with interested parties (including regulators and the public) and seeking their input for planning the biosolids program. Methods include discussion at public meetings, such as the Sewer Advisory Board and Levy Court meetings, the Kent County website and periodic discussions with neighbors. Information about the Biosolids Policy, legal and other requirements, biosolids goals and objectives and results of third party audits are available through the website and in an annual Biosolids Program Performance Report (most recent March 2010 for 2009 performance). Contractors do not participate in this process.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

In addition, the following opportunities were noted:
- A brief description of KCRWTF events and plans could be communicated externally through the Levy Court Community Newsletter.
- Input from interested parties near the KCRWTF indicates that more information about KCRWTF plans and activities could be provided to neighbors.
- Discussion with land owners (in addition to tenant farmers) prior to land applying biosolids could help in maintaining positive opinions about this use of biosolids.

5C Compliance (with legal and other requirements)

Applicable legal and other requirements are identified and tracked and listed in the EHSS MS Manual. The Core Team determines practices to ensure compliance and a compliance assessment is conducted annually as part of the internal audits process. Daily operations are monitored by Supervisors and recorded to demonstrate compliance. The State Biosolids Regulator noted that Kent County did not have any compliance violations in the past year. If noncompliances were to occur they would be corrected via the Corrective and Preventive action process.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

5D Corrective & Preventive Action Process

Formal corrective action plans, including cause analysis, responsibilities and timing, are used to address nonconformances found during third party and internal audits. Separate corrective action methods are used to address noncompliances, accidents, emergency incidents and near-misses (safety). The Core Team tracks progress in completing corrective actions and makes adjustments as needed.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

5E Critical Control Points & Operational Controls

The Core Team identifies critical control points and operational controls based on risk analysis for significant environmental aspects and OHS hazards. Applicable control points and controls are listed in the EHSS MS Manual and were most recently updated in September 2010 based on changes in operations. Review of identified critical control points and operational controls determined they are consistent with the NBP Manual of Good Practice.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

In addition, the following opportunities were noted:

- Critical control points could be more directly related to operations by adding clarifiers, disinfection and discharge for wastewater treatment operation.
- Written operating procedures could include actions for shutdown, startup and emergency operation and description(s) of consequences of deviating from established criteria.
- The “what-if” analysis used in identifying safety impacts could also be used as background in identifying environmental impacts.

5F Document Control & Recordkeeping

Documents and records requiring control are identified in the EHSS MS Manual, including the person responsible for controlling each document / record.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements, except as noted below:

> Minor Nonconformance JS/10-03 Biosolids EMS Element 12 requires that documents requiring control be approved before use. There is no approval noted on written operating procedures being used in the wastewater treatment operation.
>
> Minor Nonconformance JS/10-05 Biosolids EMS Element 12 requires control of records used to demonstrate conformity. The list of records requiring control noted in the EHSS MS Manual does not include records for personnel competency, equipment calibration, or Biosolids Program Performance Report and does not identify what records associated with "biosolids operations" and "lab operations" require control.

5G Emergency Preparedness

Several plans / procedures are in place to address emergency preparations, including SPCC Plan, Stormwater Plan, Kent County Safety Handbook and KCRWTF Emergency Response Plan. These plans are reviewed and updated as required. Emergency drills are conducted periodically (most recent April 2008). Emergency incidents are investigated and corrective actions taken as needed.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements, except as noted below:

> Minor Nonconformance JS/10-07 NBP EMS Element 11 requires that emergency procedures be in place to address potential environmental impacts. Some EHS aspects (such as security, drowning, severe weather events, contractor emergencies) are not referenced in the Emergency Preparedness procedures.

5H Engineering & Construction

New equipment planning and installation is managed through the management of change procedure, including updates for EHS risks, critical control points and operational controls. The EHSS Policy and rules / requirements are communicated in contractor meetings, including pre-job meetings. Contractors involved in construction activities receive training in the EHSS MS.

Audit Results
Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements:

5I Maintenance – Plant

Plant maintenance is performed primarily by operators, with assistance from a KCRWTF maintenance mechanic and a contracted mechnical firm. Personnel competency is ensured through qualifications, including experience and on the job monitoring. The Maintenance Mechanic logs equipment repairs to enable preventive maintenance.

Audit Results

Audit of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements, except as noted below:

> Minor Nonconformance JS/10-06 NBP EMS Element 8 requires that persons working on behalf of the organization be made aware of the importance of conforming with the EHS Policy and requirements of the management system. George & Lynch personnel working regularly at the KCRWTF site have not received EHSS MS training and are not made aware of their responsibilities within the EHSS MS.

APPENDICES

List of Participants

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

Name	Position	Organization
Chris Austin	Plant Superintendent	KCRWTF
Glen Bennett	Field Inspector	KCRWTF
Mike Henrick	Pipefitter	George & Lynch (contractor)
Hans Medlarz	Works Director	KCRWTF
Steve Mullins	Maintenance Mechanic	KCRWTF
Jim Newton	Environmental Program Manager	KCRWTF
Keith Powell	Assistant Works Director	KCRWTF
Bill Vincent	Operations Supervisor	KCRWTF
Rich Whittmore	Operator	KCRWTF
Interested Parties		
Rob Underwood	Biosolids Regulator	DNREC
Bill Yonker	Interested party (neighbor, member SAB)	

List of Documents & Records Reviewed

Annual report – 2009
Biosolids Daily Test Sheet
Biosolids Monthly Report Sept 2010
Biosolids production check sheet
Chart – fecal coloform & enterococus removal 10/27/10 to 11/10/10
Class IV Operator license
Compliance Assessment checklist
Contractor safety Guidelines 11/30/09
Core Team mtg minutes 9/16/10, 4/26/10
CPAR (various)
Critical control points & operational controls table
Daily operating logs (various)
Daily Shift Procedure 11/1/10
DMR and Plant Operations Reports
EHSS MS Manual
Emergency Evacuation drill record 4/25/08
Emergency Response Plan 10/10
Emergency shutdown procedure – biosolids
Environmental and Safety Meeting minutes 9/15/10
Environmental aspects / OHS hazards & risks analysis table
Field Data – clarifiers, blowers
Hazard Communication and Chemical safety communication
Incident reports 11/3/10, 9/12/10
Internal audit report 9/30/10

KCRWTF Organization Chart
Levy Court Newsletter
List – regulations applicable to KCRWTF
Management of Change forms
Operating data Sept 2010
Pre-construction meeting minutes – Greenstone Eng'g (2/3/10)
Safety Handbook 2-27-03
Safety Meetings minutes 9/20/10, 7/19/10, 7/1/10
SPCC Plan 6/2/10
Specifications for Construction – UV Modifications Oct 2009
SSO and Operations Update 10/10
SSO letter to DNREC 10/1/10
Stormwater Plan 11-06
Training logs (various)

END OF REPORT