

Executive Summary

To: MSD Directors, EMS Core Team Members
From: EMS Internal Auditors
Date: January 20, 2009
Subject: Second Internal EMS Audit Findings

The Environmental Management System's (EMS) Internal Auditors conducted their second Internal EMS Audit November 17-21, 2008. The objective of the internal audit was to evaluate the EMS, how it conforms to the National Biosolids Partnership (NBP) *Environmental Management System for Biosolids*, to provide suggestions for improvement and to prepare the system for the third party audit.

The results of the audit found the following nonconformances, as they relate to the Elements set forth by the National Biosolids Partnership. Refer to Section 2A for additional information.

- 01 Major Nonconformance - Contracts for Waste Management and B&H Haulers do not adhere to the guidelines for training, roles and responsibilities, communication, recordkeeping, operational controls and emergency preparedness set forth by the National Biosolids Partnership.
- 02 Major Nonconformance - The training program for Standard Operating Procedures has not ensured that employees responsible for specific biosolids management activities and for the implementation of various EMS functions are competent in performing their assigned tasks and duties. The training program for EMS Training has not ensured new employees and contractors are aware of the EMS policy and elements. Human, technical and financial resources necessary to execute these responsibilities effectively has either not been provided or the resources are not being used to their fullest.
- 03 Major Nonconformance - Specific document control procedures and practices were not followed to ensure that its Biosolids Management program documentation and documents were available, easily located, provided to the public and kept secure.
- 04 Minor Nonconformance - Standard operating procedures, work management practices, or other methods at the critical control point for Off Site Transportation of liquid biosolids (B& H Haulers) have not been effective at managing environmental impacts.
- 05 Major Nonconformance - The emergency preparedness and response plans and procedures to ensure effective response to accident and emergency situations associated with biosolids management activities have not been updated since December 2007 internal audit and are not readily available to the employees.
- 06 Minor Nonconformance - Assigned roles and responsibilities distribution and transportation for Louisville Green are not being followed. A-J, Inc. has agreed to supply an emergency plan for haulers but has failed to produce this in a timely manner.

- 07 Minor Nonconformance - The procedure to investigate nonconformance with internal EMS procedures identified through internal and third party audits EMS audit is functioning, however two nonconformance's from the third party audit remain open with the corrective action plan for each not being clearly defined.
- 08 Minor Nonconformance - Goals and objectives have not been specified on all points of the biosolids value chain, specifically the Pretreatment program.



**National Biosolids Partnership
Biosolids EMS Internal Audit Report**

**Louisville and Jefferson County
Metropolitan Sewer District**

Louisville, KY

Audit Report Date: January 20, 2009

Audit Conducted By:

Robin Burch, Lead Auditor
Greg Brewton
Joe Falleri
Troy Henderson
Sherry Knox

Audit Dates: November 17 – 21, 2008

Report Written By: Robin Burch

Report Reviewed By: Scott Porter, Attorney

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1. Summary

The Internal Audit Team, hereafter known as the “auditors”, conducted the second internal audit of the Biosolids Environmental Management System (EMS). The system is used by Louisville and Jefferson County Metropolitan Sewer District (MSD) in managing its biosolids program at the Morris Forman Water Quality Treatment Center (MFWQTC). The audit was performed November 17 through November 21, 2008.

The objective of the internal audit was to evaluate the EMS, how it conforms to the National Biosolids Partnership (NBP) *Environmental Management System for Biosolids*, to provide suggestions for improvement and to prepare the system for the third party audit.

1A. Audit Scope

The scope of the audit included the entire biosolids value chain as it relates directly to practices and activities that support or affect the biosolids operations. This includes the National Biosolids Code of Good Practice Principles of Conduct.

The scope of the second internal audit included but was not limited to the following areas in the biosolids value chain:

- Review of the EMS Manual and related documents
- Audit of each of the 17 Elements related specifically to the following areas:
 - Pretreatment
 - Outside Contractors

The audit was conducted in two phases. Phase 1 was conducted November 17-18, 2008 and included a review of EMS documentation. Phase 2 was conducted November 18-21, 2008 and included interviews with key personnel.

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1B. Summary of Audit Findings

EMS Strengths

The auditors noted the following strengths in the EMS approach.

- Management is committed to maintaining an effective EMS system.
- Monitoring and measurement tools are being implemented in each area in real time.
- National EMS Certification has boosted employee moral.

EMS Outcomes

The auditors noted the following outcomes since the implementation of the EMS approach.

- Product specifications have remained consistent.
- Reduction in landfill occurrences and landfill costs.
- Employee involvement in biosolids production has increased.

Nonconformances

The auditors identified four (4) major nonconformances and four (4) minor nonconformances as they relate to the required elements set forth by the NBP. These nonconformances are described in detail in Section 3 and 4 of this report.

Opportunities for Improvement

The auditors identified six (6) opportunities for improvement. These opportunities are described in detail in Section 4 of this report.

1C. Agreements

The EMS Coordinator has agreed to submit corrective action plans to the auditors for review within 30 days of receipt of the audit report. The corrective action plans will then have an additional 60 days for implementation.

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2. Audit Details

2.A. Agency Details

Agency Name: Louisville and Jefferson County MSD
Address: 4522 Algonquin Parkway, Louisville, KY
Volume of Wastewater Treated: 100 MGD Average, 330 MGD Peak
Biosolids Produced: 25,000 dry tons per year
Number of Employees: 92

Biosolids Use/Disposition Sites Audited

Doug Hodges Farm

Contractors Audited

B& H Hauling
Waste Management

Audit Team

The Internal Audit Team consisted of the following MSD personnel:

Robin Burch – Process Support Technician, Lead Auditor
Greg Brewton – Master Maintenance Electrician
Joe Falleri – Process Supervisor Operations
Troy Henderson – Process Technician II
Sherry Knox – Budget Administrator

2B. Definitions

Major Nonconformance – a serious omission from requirements and/or other departure that represents, or could cause, a systemic failure.

Minor Nonconformance – an isolated departure from requirements that does not represent a systemic failure.

Opportunity for Improvement – possible improvement in the EMS based on auditor observations.

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2C. Reference Materials

The following materials were used as a reference by the auditors during the internal audit:

Louisville and Jefferson County EMS Manual, October 2008
National Biosolids Partnership National Manual of Good Practice for Biosolids,
January 2005
National Biosolids Partnership Management System Guidance Manual, June 2002

3. Audit Summary

3A. Summary of Results per EMS Element

The following summarizes the results of the audit related to the 17 Elements. Details are given in Section 4 of this report.

EMS Element	Status	Nonconformances
1. Documentation of EMS for Biosolids	Conforms	
2. Biosolids Management Policy	Conforms	
3. Identification of Critical Control Points	Conforms	
4. Legal and Other Requirements		01 -- Major Nonconformance: Establish a procedure for identifying and tracking legal and other requirements applicable to its biosolids management activities. Communicate relevant information to contractors via service agreements.
5. Goals and Objectives for Continual Improvement		08 -- Minor Nonconformance: Establish and periodically review measurable biosolids program goals and objectives for biosolids management activities.
6. Public Participation in Planning	Conforms	

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<p>7. Roles and Responsibilities</p>		<p>01 -- Major Nonconformance: Define and document the roles and responsibilities of contractors retained to perform various biosolids management activities and EMS functions through contracts or service agreements.</p> <p>02 -- Major Nonconformance: Provide the human, technical, and financial resources necessary to execute these responsibilities effectively.</p> <p>06 -- Minor Nonconformance: Establish and maintain records of the assigned roles and responsibilities for the biosolids management program and document roles and responsibilities of employees for performing biosolids management activities and EMS functions.</p>
<p>8. Training</p>		<p>01 -- Major Nonconformance: Require that contractors establish their own training programs consistent with their roles and responsibilities in biosolids management activities as defined through service agreements.</p> <p>02 -- Major Nonconformance: Include in the training program new or reassigned employees.</p>
<p>9. Communication</p>		<p>01 -- Major Nonconformance: Define roles and responsibilities of outside contractors in the communication program.</p> <p>02 -- Major Nonconformance: Communicate relevant information about biosolids management activities, and all 17 elements of the EMS to employees and outside contractors, consistent with assigned roles and responsibilities.</p> <p>06 -- Minor Nonconformance: Define roles and responsibilities of outside contractors in the communication program.</p>

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<p>10. Operational Control of Critical Control Points</p>		<p>01 -- Major Nonconformance: Require that contractors establish their own operational controls consistent with their roles and responsibilities in biosolids management activities.</p> <p>04 -- Minor Nonconformance: Develop and implement standard operating procedures, work management practices, or other appropriate methods at all critical control points throughout the biosolids value chain to manage potential environmental impacts effectively.</p>
<p>11. Emergency Preparedness</p>		<p>01 -- Major Nonconformance: Require contractors to establish and maintain emergency preparedness and response plans and procedures to assure effective response to accidents and emergency situations associated with biosolids management activities.</p> <p>05 -- Minor Nonconformance: Establish and maintain emergency preparedness and response plans and procedures to ensure effective response to accidents and emergency situations associated with biosolids management activities.</p> <p>06 -- Minor Nonconformance: Require contractors to establish and maintain emergency preparedness and response plans and procedures to assure effective response to accidents and emergency situations associated with biosolids management activities.</p>
<p>12. EMS Documentation, Document Control and Recordkeeping</p>		<p>01 -- Major Nonconformance: Establish documentation, document control and record requirement for biosolids management activities conducted by its contractors in service agreements, and incorporate these requirements into EMS for biosolids.</p>

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12. EMS Documentation, Document Control and Recordkeeping Cont.		03 -- Major Nonconformance: Establish and maintain records of biosolids management activities and ensure they are a) available and easily located.
13. Monitoring and Measurement		01 --Major Nonconformance: Require contractors to establish and maintain regular monitoring and measurement procedures and practices for all thier assigned management activities as defined in their service agreements.
14. Nonconformances: Preventative and Corrective Actions		07 -- Minor Nonconformance: Develop and implement a procedure to investigate any noncompliance with applicable regulatory requirements or nonconformance with internal EMS procedures identified during routine monitoring and measurement or period internal EMS audit.
15. Biosolids Program Periodic Performance Report	Conforms	
16. Internal EMS Audit	Conforms	
17. Periodic Management Review of Performance	Conforms	

4. Detailed Audit Results

The auditors made the following observations with respect to each element during the audit process:

Element 1 – Documentation of EMS for Biosolids

Process Description

The EMS manual is undergoing revision to better develop a flowcharting process therefore improving the understanding of the processes. The EMS manual is not currently available to the public, but MSD employees do have access to the EMS manual through a network drive.

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Audit Results

The process was found to be in adherence with NBP expectations.

Element 2 -- Biosolids Management Policy

Process Description

The Policy Statement presented in the EMS Manual commits MSD to operate in accordance with the principle of good practice set forth by the NBP.

Audit Results

The Code of Good Practice Principles of Conduct have been included in the Biosolids Management Policy.

Observation:

The auditors feel the 10 Principles of Conduct have been effectively integrated into the Biosolids Value Chain.

Element 3 -- Critical Control Points

Process Description

Critical control points for the MFWQTC are identified in Appendix 3A of the EMS Manual.

The internal auditors interviewed pretreatment inspectors and examined the permit requirements for Greenlee Textron and JCK Enterprises. All information was in order.

Audit Results

The process was found to be in adherence with NBP expectations.

Observation:

During the desk audit, it was observed that the critical control points and environmental impacts have been improved from the prior years audit. A good job was done to link critical control points with environmental impacts. Specifically, pretreatment control points have been documented.

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During key personnel interviews, it was determined that preventative maintenance procedures are adequate to maintain equipment in good working order. In the event of equipment malfunction, it was determined maintenance is very responsive in fixing the equipment due to the work order process.

Doug Hodges Farm was visited for inspection and key personnel interviewed. Mr. Hodges was very complimentary of the end product and the Sales Agent, Clarke Fenimore. The auditors inspected how the pellets were being stored before being applied and was found to be adequate.

Element 4 – Legal and Other Requirements

Process Description

The EMS Manual lists all legal and other requirements necessary for the value chain. Each member of the EMS Core Team has the responsibility for keeping track of changing regulations and communicating these changes back to the team.

Audit Results

The following nonconformance was found in relation to Element 4 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Establish a procedure for identifying and tracking legal and other requirements applicable to its biosolids management activities.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

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Opportunity

The auditors recommend more information concerning the EMS Policy and Requirements be included in all Bid Documentation for contractor work pertaining to the Biosolids. It was observed the contract for B&H is just simply a purchase order attached to the original Bid Document. If the Bid Document had included the EMS Policy and Requirements a nonconformance could have been avoided.

Element 5 – Goals and Objectives for Continual Improvement

Process Description

Goals and objectives have been identified for the biosolids value chain processes. Documentation provided shows much consideration was given from the public, and employees concerning environmental impacts and best management practices as defined in the Manual of Good Practice.

Audit Results

The following nonconformance was found in relation to Element 5 of the EMS Manual:

Minor Nonconformance NC08

Element Requirement:

Establish and periodically review measurable biosolids program goals and objectives for biosolids management activities.

Observation:

The auditors observed in documentation during desk audit that goals or objectives have not been identified for pretreatment.

Element 6 – Public Participation in Planning

Process Description

Public participation is included in many aspects of the planning process as related to the 17 Elements. The Core Team does an excellent job in documenting information given at public forums and information received from other interested parties. Input received is discussed at regular intervals during management meetings. The EMS Coordinator maintains an interested party list and updates the public participation file as needed.

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Audit Results

The process was found to be in adherence with NBP expectations.

Element 7 – Roles and Responsibilities

Process Description

Job descriptions are prepared for each type of employee but are not specific to an individual area in the plant. EMS responsibilities are given in specific EMS procedures and summarized in Element 7 of the manual. Contractor responsibilities should be defined through Service Agreements.

Audit Results

The following nonconformance was found in relation to Element 7 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Define and document the roles and responsibilities of contractors retained to perform various biosolids management activities and EMS functions through contracts or service agreements.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Major Nonconformance NC02

Element Requirement:

Provide human, technical, and financial resources necessary to execute these responsibilities effectively.

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Observation:

During the desk audit, documentation was requested for all training of new employees on the EMS Policy. This documentation showed new employees have not been trained on the EMS Policy.

Opportunity:

The internal auditors believe the resources are not adequate to effectively train new employees on the EMS Policy. The auditors recommend this training be combined with the new employee orientation provided to each new employee. Thus, this would free up time of the EMS Coordinator to be better utilized in another area.

Minor Nonconformance NC06

Element Requirement:

Define and document the roles and responsibilities of contractors retained to perform various biosolids management activities and EMS functions through contracts or service agreements.

Observation:

During the desk audit, the internal auditors examined the contract for A-J, Inc. The contractor expectations states that A-J, Inc. will develop a plan for emergencies and have it approved by MSD Officials. The auditors requested this document, but were told it did not exist.

Element 8 – Training

Process Description

MFWQTP has a trainer dedicated to the training responsibilities specific to the plant. This trainer has a comprehensive program in place to ensure new and existing employees are adequately trained to effectively perform the required job duties.

At the time of this audit, the EMS Coordinator is responsible for all training concerning the EMS Manual and any new procedures that have resulted from the implementation of the EMS procedures.

The MSD Safety Department maintains good training records that confirms all new employees receive their Haz Mat Level III Certification as stated in the EMS Manual.

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Audit Results

The following nonconformances were found in relation to Element 8 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Require that contractors establish their own training programs consistent with their roles and responsibilities in biosolids management activities as defined through Service Agreements.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Major Nonconformance NC02

Element Requirement:

Establish and maintain a training program to ensure that employees responsible for specific biosolids management activities and for the implementation of various EMS functions are competent in performing their assigned tasks and duties. The training program shall provide general awareness to the entire biosolids value change. Provide human, technical, and financial resources are necessary to execute these responsibilities effectively.

Observation:

During the desk audit, documentation was requested for all training of new employees on the EMS Policy. This documentation showed new employees have not been trained on the EMS Policy.

During key personnel interviews, the majority of the interviewees could not answer the question if they had EMS training or what EMS stood for.

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During key personnel interviews, the majority of the interviewees were not aware the Standard Operating Procedures, SOP's, were available to them on a network drive. It is stated in the EMS manual that supervisors are to train their employees on the SOP's for the specific area. During interviews, it was determined this was not always occurring.

During the desk audit, the internal auditors asked to review the Supervisors SOP Training log. It was never produced.

Opportunity

It is recommended the EMS Coordinator put together a plan to schedule additional or updated training for employees.

The audit team believes the resources necessary for adequate and efficient operator training, as it relates to EMS Procedures, does not exist. Currently the employee supervisor handles SOP training, and was found not to be consistent all of the time.

The audit team suggests additional resource allocation could help the training program be more effective.

The internal auditors suggest using the safety department or other trainer to train new contractors on the EMS Policy. It is standard procedure for the safety department to have an orientation for any new contractor to the plant. The EMS training could easily be incorporated into this orientation.

Element 9 – Communication

Process Description

Internal communications occur frequently within the EMS Core Team meetings. These communications include discussions concerning requirements and responsibilities that need attention or updating.

External communications occur through the product website, along with trade shows, brochures, community meetings and presentations made by the Core Team. The EMS Coordinator is responsible for maintaining and updating the participation log relevant to these communications.

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Audit Results

The following nonconformance was found in relation to Element 9 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Communicate relevant information about biosolids management activities and all 17 elements of the EMS to employees and outside contractors, consistent with assigned roles and responsibilities.

Observations:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

It is determined by the auditors that the roles and responsibilities have not been assigned to outside contractors, with the lack of a contract, and therefore the avenue of communication has not been adequately established.

Major Nonconformance NC02

Element Requirement:

Communicate relevant information about biosolids management activities and all 17 elements of the EMS to employees and outside contractors, consistent with assigned roles and responsibilities.

Observation:

During key personnel interviews, the majority of the interviewees were not aware the Standard Operating Procedures, SOP's, were available to them on a network drive. It is stated in the EMS manual that supervisors are to train their employees on the SOP's for the specific area. During interviews, it was determined this was not always occurring.

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Opportunity

More effective internal communication needs to take place so employees are aware of the resources available. The internal auditors believe this falls heavily on the lack of training observed in Element 8.

The auditors recommend a Standard Operating Procedure be written to handle a biosolids complaint via a telephone call. Currently calls are routed to someone on the Core Team but no formalized procedure exists.

Minor Nonconformance NC06

Element Requirement:

Establish and maintain records of assigned roles and responsibilities for the biosolids management program and activities. These records shall define and document roles and responsibilities of employees for performing biosolids management's activities and EMS functions.

Observation:

During the desk audit, the internal auditors examined the contract for A-J, Inc. The contractor expectations states that A-J, Inc. will develop a plan for emergencies and have it approved by MSD Officials. The auditors requested this document, but were told it did not exist.

Element 10 – Operational Controls of Critical Control Points

Process Description

Operational Controls and Environmental Impacts are identified at all critical control points. Review of the preventative maintenance procedures was extremely adequate with use of commercial software aiding in the work order process. The auditors believe the best management practices from various authoritative sources were used in the development of the operational controls.

The Louisville Green Quality Protocol was examined and compared to events that had just occurred concerning the quality of the biosolids product. It was found by the internal auditors the protocol had been followed as stated in the EMS manual.

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Audit Results

The following nonconformance was found in relation to Element 10 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Require that contractors establish their own operational controls consistent with their roles and responsibilities in biosolids management activities.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Minor Nonconformance NC04

Element Requirement:

Develop and implement standard operating procedures, work management practices, or other appropriate methods at all critical control points throughout the biosolids value chain to manage potential environmental impacts effectively.

Observation:

During the desk audit, the internal auditors examined the operational controls at all critical control points. It was determined there are no operational controls listed for Off site Transportation to monitor what is being transported into the plant. Haulers are required to sign a logbook at the pickup site, but no operator sign off is required. A manifest form is completed at the pickup site and delivered to the drop off site. There is no monitoring or measurement that shows where the truck has been between pickup and drop off points to confirm no other pickups have occurred.

Internal auditors spoke with two B&H contractors to obtain first hand knowledge of how the sludge is picked up and delivered to the facility.

Internal auditors spoke to a Waste Management Contractor to discuss how the final product is removed to the landfill, when needed.

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Opportunity:

Some form of monitoring needs to occur at the point of delivery for the sludge haulers. At present, the impact of the sludge to the plant and biosolids is not known.

The internal auditors recommend removing the contractor names from the manual.

The Waste Management Contractors need a MSDS for Louisville Green in their truck when hauling to the landfill.

Element 11 -- Emergency Preparedness and Response

Process Description

Louisville and Jefferson Co. MSD has prepared and implemented an Emergency Response Program for the entire facility. Employees received hazard materials, communication, fire extinguisher, CPR and respiratory training each year. Emergency response equipment is inspected on a quarterly basis for readiness. Employees are trained as Emergency Response Technicians (ERT) and have updated training yearly. Plant wide emergency drills are conducted at least annually and in some instances more frequently. Detailed safety requirements related to the biosolids are contained in specific SOPs per area.

Audit Results

The following nonconformances were found in relation to Element 11 of the EMS Manual:

Major Nonconformance NC01

Element Requirement:

Require contractors to establish and maintain Emergency preparedness and response Plans and Procedures to assure effective response to accidents and emergency situations associated with biosolids management activities.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

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During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Minor Nonconformance NC05

Element Requirement:

Establish and maintain emergency preparedness and response plans and procedures to ensure effective response to accidents and emergency situations associated with biosolids management activities.

Observation:

Emergency Preparedness manual refers to the ANDRITZ OTM specifically for pellet fires. During the 2007 internal audit the manual could not be produced for the auditors. As a part of the corrective action, the EMS Coordinator requested this be removed from the documentation and replaced with the SOP for dryers as this contains the most pertinent safety information for that area. During the desk audit, the internal auditors examined the Emergency Preparedness document supplied by the Safety Department. The ANDRITZ OTM is still referenced for pellet fires.

Opportunity

The internal auditors believe a separate document should be prepared for biosolids safety as specific measures need to be taken in the event of a biosolids fire or spill. It has been requested several times by the EMS Coordinator the MSD Emergency Response Program be placed on a network drive for immediate access. The internal auditors believe this to be a good idea.

Minor Nonconformance NC06

Element Requirement:

Establish and maintain records of assigned roles and responsibilities from the biosolids management program and activities. These records shall define and document roles and responsibilities of employees for performing biosolids management's activities and EMS functions.

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Observation:

During the desk audit, the internal auditors examined the contract for A-J, Inc. The contractor expectations states that A-J, Inc. will develop a plan for emergencies and have it approved by MSD Officials. The auditors requested this document, but were told it did not exist.

Element 12 – EMS Documentation, Document Control and Recordkeeping

Process Description

All EMS procedures are documented in the EMS Manual. All employees have access to the manual via the companies' network drives.

Audit Results

The following nonconformances were found in relation to Element 12 of the EMS Manual:

Major Nonconformance NC01

Establish documentation, document control, and record requirements for biosolids management activities conducted by its contractors in Service Agreements, and incorporate these requirements into EMS for biosolids.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Major Nonconformance - NC03

Element Requirement:

Establish and maintain document control procedures and practices to ensure that its Biosolids Management program documentation and documents are a) available and can be easily located, b) created following established document creation protocols, c) kept up to date through periodic reviews and revision, d) properly marked with version number, and effective dates, and references to replaced or superseded versions, and e) approved by authorized personnel.

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Observation:

A fertilizer license was requested from the compliance library. Auditors were taken to the library and shown where the fertilizer license should have been. The folder was empty.

The auditors requested the supervisor's SOP training log. It was never produced.

Third party audit findings have not been made available to the public. Note: This had been corrected by the end of the desk audit.

Logbooks and other materials located in the resource room are not kept secure. This room is routinely left open and does not have restricted access. File cabinets located in this room have individual locks but are not utilized.

Opportunity

The internal auditors believe it is not possible to keep a document currently located in the resource library secure. Anyone has access to this room and it is not known if any items have been altered.

Element 13 -- Monitoring and Measurement

Process Description

MFWQTC has an onsite, EPA certified, laboratory that is responsible for all process, biosolid and industrial waste analysis. The laboratory maintains a quality assurance program which includes SOPs and a Quality Assurance Manual.

A third party laboratory is responsible for the specific AOAC testing required by EPA 503.

The EMS Coordinator has developed a real-time spreadsheet that monitors critical operational controls in the dryer area. Employees and contractors have access to this spreadsheet 24/7 to monitor biosolids progress.

Audit Results

The following nonconformance was found in relation to Element 13 of the EMS Manual:

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Major Nonconformance – NC01

Element Requirement:

Require contractors to establish and maintain regular monitoring and measurement procedures and practices for all their assigned biosolids management activities, as defined in their service agreements.

Observation:

During the desk audit, contracts were requested for all contractors. Internal auditors were told no contract or letter of agreement for Waste Management exists.

During the desk audit, the internal auditors examined the contract for B&H Hauling. The auditors determined this contract does not meet the elements set forth in the EMS Manual.

Opportunity:

During interviews with key personnel, the internal auditors noted there was some concern with the operators about the density measurements and how they compared with the laboratory measurements. The internal auditors examined the instrumentation used for the density measurements. It must be noted, the methods used in the plant are not the same as the methods used in the laboratory. However, it was noticed by the internal auditors that the instrumentation in the plant is not level. This equipment must be maintained on a level surface to operate correctly. Therefore, it is recommended new table tops be purchased that can maintain a level surface.

Element 14 – Nonconformances: Preventative and Corrective Actions

Process Description

A procedure has been established but not implemented for identifying nonconformances and their resulting corrective actions.

Audit Results

The following nonconformance was found in relation to Element 14 of the EMS Manual:

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Minor Nonconformance NC07

Element Requirement:

Develop corrective action plans to address nonconformance's identified during routine monitoring and measurement and identify the nonconformance's, the root causes and the corrective action being taken. In the corrective action plans, identify changes to policies, programs, plans, operational controls and monitoring/measurement procedures to prevent future nonconformance's.

Observation:

During the desk audit, the internal auditors requested from the EMS Coordinator any corrective actions that were identified since the third party audit. None had been identified.

During the desk audit, the auditors observed two corrective actions from the third party audit had not been closed. Corrective actions for nonconformance 08-02 and 08-03 do not seem to address the issue. They are unclear as to their relevance. They do not have a resolution date.

Element 15 -- Biosolids Management Program Performance Report

Process Description

The performance report is a snapshot to date of the amount of biosolids produced, compliance performance, goals and objectives performance, summary of the corrective actions and any audit results.

Audit Results

The process was found to be in adherence with NBP expectations.

Observation:

During the desk audit the internal auditors examined the report and found it to be adequate for the first year of EMS operations.

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Element 16 -- Internal EMS Audit

Process Description

A procedure is in place for the Internal EMS Audit and was followed during the interim internal audit. The internal audit team developed a scope and plan for the audit and presented it to the EMS Coordinator. Development of questions and checklists was also done during this audit period that will aid the auditors in future audit.

Audit Results

The process was found to be in adherence with NBP expectations.

Element 17 -- Management Review

A procedure is in place for the Management Review of entire EMS procedures. The review is to take place after all audit reviews. The review is to be a general overview of what has occurred during the past year but specifically to review adequacy, suitability, effective and overall performance.

Audit Results

The process was found to be in adherence with NBP expectations.

Observation:

The internal auditors examined the Management Review Report for 2007. Management examined the first year's findings and had some good suggestions for improvement.

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Appendices

A. List of Interview Participants

Alex Novak	Wastewater Operations Manager
Allen Adams	Fire and Safety Administrator
Robert Bates	Wastewater Process Supervisor
Sharon Worley	Senior Technical Services Engineer
David Coe	EMS Coordinator
David Roth	Trainer
Lisa Gaus	Emergency Response Pretreatment Administrator
Anthony Milan	Process Technician I
Paul German	Process Technician Trainee
Victor Dywer	Process Technician II
Donnie Bowman	Process Technician II
Noble Marks	Maintenance Planner
Daymond Talley	Regulatory Engineer
Doug Hodges	End User of Biosolids
B&H Contractors	
Robert Meeks	Waste Management Contractor
Pat Weathers	Operations Administration

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B. List of Requested Resources

SOP Online
API Contract
Waste Management Contract
A-J, Inc. Contract
B& H Contract
2008 U of L Hazardous Materials Class Training Schedule
Public Participation Binder
Biosolids Management Program Performance Report
Emergency Preparedness and Response Plan
EMS Training Log
Fertilizer License
MF Personnel Training Lists
Training Procedure
Louisville Green Website
Third Party Audit Report