

National Biosolids Partnership Biosolids EMS Audit Report

City of Los Angeles Bureau of Sanitation Los Angeles, California

Audit Dates: August 9 to 12, 2010

Audit Conducted By:

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

Auditors: Mr. Jon Shaver, Biosolids EMS Lead Auditor / Biosolids Auditor

Audit Report Date: Final September 7, 2010

Report Written By: Jon Shaver, KEMA-Registered Quality, Inc.

Technical Review By: Diane Gilbert, City of Los Angeles

Report Approved By: Pierre Salle, KEMA-Registered Quality Inc.



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1. EXECUTIVE SUMMARY

KEMA-Registered Quality Inc. (KEMA) conducted an independent audit of the environmental management system (EMS) being used by the City of Los Angeles Bureau of Sanitation (LA City) in managing its biosolids program. The audit was performed September 14 and 15, 2009 at the request of the National Biosolids Partnership (NBP) and the City of Los Angeles. It was the initial third party interim audit in the current cycle following verification of LA City's biosolids program in 2008.

The purposes of this audit were to:

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

During the audit KEMA reviewed several processes and activities used by LA City in managing its biosolids program and assessed the conformance of these processes with expectations and requirements of the NBP EMS Elements. This scope of the audit was consistent with the interim audit program agreed upon by LA City and KEMA.

The audit determined that:

- The management system is generating positive outcomes, particularly energy self sufficiency and other sustainability initiatives.
- The LA City biosolids management system meets requirements of NBP's EMS Elements with five minor exceptions (minor nonconformances). These nonconformances are not related and do not represent a systemic problem.
- All nonconformances from prior third party audits have been effectively corrected and are closed.
- Several "opportunities for improvement" were noted.

Based on results of this audit, KEMA verifies that the biosolids management system being used by LA City Bureau of Sanitation meets expectations and requirements of the NBP EMS Elements. We recommend continuing certification of that management system within NBP's Biosolids EMS Program.



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2. AUDIT DETAILS

2A. Local Agency Details

Agency Name, Location: City of Los Angeles Bureau of Sanitation, Los Angeles, California (referred to as LA City in this report)

Biosolids Production Location(s): Hyperion Treatment Plant, Terminal Island Treatment Plant

Number of Employees: 2800 (approximately)

Volume of Wastewater Treated (approximate): Hyperion Treatment Plant = 330 MGD

Terminal Island Treatment Plant = 29 MGD

Tons of Biosolids Produced (approximate): Hyperion Treatment Plant = 650 wet tons per day

Terminal Island Treatment Plant = 50 wet tons per day

Biosolids Use / Disposition Sites Audited

Griffith Park Composting Facility, Los Angeles

Contractors Participating

None

2B. Audit Team

The City of Los Angeles and the National Biosolids Partnership asked KEMA-Registered Quality Inc. to perform this audit. Mr. Jon Shaver conducted the audit for KEMA. Mr. Shaver is certified by the NBP as a Biosolids EMS Lead Auditor and Biosolids Auditor. KEMA asserts that our firm and auditors have an independent relationship with LA City that meets criteria established by the NBP for Third Party Audit Companies and Auditors.

2C. Audit Scope and Methodology

The scope of this audit covered parts of LA City biosolids program, which encompasses pretreatment, biosolids stabilization, storage and transportation and end use / disposition, with special attention to practices and management activities that directly support biosolids-related operations, processes and activities.

The audit included the following topics, consistent with NBP requirements for biosolids EMS interim audits and the overall audit program agreed to by KEMA and LA City.

- 1. Discussion of any significant changes
- 2. Verification of open nonconformances from previous KEMA audits (i.e. 2008 Reverification Audit)
- 3. Examination of outcomes being achieved by LA City in the areas of regulatory compliance, interested party relations, environmental performance and quality practices.
- 4. Process Audits:



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Biosolids Preparation (incl wastewater treatment, solids stabilization, conditioning &

- Biosolids Preparation (incl wastewater treatment, solids stabilization, conditioning & handling) - Hyperion
- Biosolids Loading & Transportation Hyperion
- Biosolids Use & Disposition Composting Griffith Park
- Control of Contractors
- Corrective and Preventive Action
- Critical Control Points & Operational Controls (Identification)
- Document Control & Recordkeeping
- Emergency Preparedness
- Communication Program (incl public participation)
- Pretreatment
- Process Engineering (Plant Mgmt)
- Goals & Objectives
- Internal EMS Audits
- Management Involvement (incl Policy, EMS Planning, Roles & Responsibilities, Mgmt Review)

The audit was conducted by interviewing key personnel involved in LA City's 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 using sampling techniques in a manner that is consistent with the NBP Auditor Guidance (August 2007) and KEMA's Biosolids EMS Audit Planning Guide.

2D. Reference Materials

The following documents were used as references during this audit:

LA City EMS Manual (current version)

National Biosolids Partnership "EMS for Biosolids" standard (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

2E. Definitions of Audit Findings & Required Corrective Action

<u>Major Nonconformance</u> – a serious omission from requirements and/or other departure that represents, or could cause, a systemic failure. Major nonconformances must be corrected within 90 days for verification to proceed.

<u>Minor Nonconformance</u> – an isolated departure from requirements that does not represent a systemic failure. Minor nonconformances require timely and effective correction and verification by a Third Party Auditor.

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



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3. SUMMARY OF AUDIT RESULTS

3A. EMS Strengths

During this audit KEMA noted the following strengths in the LA City biosolids management system.

- The process for setting objectives is well established (Bureau goals, Division objectives, BAT Review & site-wide objectives).
- An effective closed loop corrective action process is used in IWMD for correcting problems resulting in NOVs.
- The Bureau's public outreach and communications program is effective and has resulted in positive feedback and recognition from several sources.

3B. Outcomes

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

Regulatory Compliance

Record of 100% regulatory compliance continues.

Programs developed at IWMD for permitting dental offices and for identifying and controlling pollutants of emerging concern are leading edge best practices.

Environmental Performance

Diversification of beneficial use options for LA City biosolids continues, including potential for using >100% of biosolids currently produced.

The TIRE project (demonstration) could result in lower greenhouse gas emissions (sequestered CO2) and increased energy generation and continuing diversification of beneficial uses.

Interested Party Relations

The Bureau of Sanitation has received awards in the past 2 years from CASA, CWEA, NACWA, Harvard School and is a finalist within the National League of Cities.

The Bureau of Sanitation's public outreach program continues to expand (e.g. e-mails, website, tours, citizen forums, newsletter) and receive positive feedback, leading to increased confidence from city officials and trust from citizens.

Quality Practices

Continuing improvement in Class A pathogen equivalency production methods (e.g. lower temperature, shorter batch times) will lead to reduced energy use and increased plant capacity.

The development of a long term biosolids management plan, including input from citizen groups, will lead to a more sustainable biosolids program.



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The working relationship with contractors (RBM, Terra Renewal) continues to improve as evidenced by voluntary cooperation on fees in response to current economic conditions.

3C. Nonconformances

During this audit, KEMA found five (5) minor nonconformances with respect to the audit criteria, as described below and in the "Audit Results" section of this report. Review of these nonconformances determined that they do not represent a systemic deficiency. KEMA's Lead Auditor reviewed Corrective Action Plans prepared by LA City addressing each nonconformance and found them to be acceptable. The effectiveness of corrective actions will be verified at or before the next third party audit.

Minor Nonconformance JS / 10-01 / 2 NBP EMS Element 2 requires the Biosolids Management Policy to be integrated into biosolids activities.

Poor housekeeping was evident in Digester D battery, centrifuge area and truck loading (scaffolds, ladders left in place, hoses on ground, live electrical wires on floor, plastic bags in tunnels, equipment left on floors, cigarette butts on ground, control panels taped over). This is not consistent with commitment to Quality Practices included in commitment to Code of Good Practice.

Minor Nonconformance JS / 10-02 / 5 NBP EMS Element 5 requires that objectives be stated in a measurable way.

5 of 6 objectives planned for 2010 / 11 are not measurable, except as a "yes/no" accomplishment within the prescribed timing.

Minor Nonconformance JS / 10-03 / 13 NBP EMS Element 13 requires monitoring and measurement to assure compliance with legal and other requirements and to measure biosolids program performance at critical control points.

At the Griffith Park Composting Facility, it is uncertain what steps will be taken if compost piles are found to not meet fecal and/or metal requirements and records of monitoring for compliance with US Composting Council STA Program (other requirement) are not readily available.

Minor Nonconformance JS / 10-04 / 14 NBP EMS Element 16 requires a corrective action plan to address nonconformances found during internal audits and Element 14 requires that plan to include identification of cause, responsibility and timing.

The Internal Audit conducted in May 2010 had findings, however it is not clear what the cause of the finding is or whether corrective action has been completed effectively and on time.

Minor Nonconformance JS / 10-05 / 17 NBP EMS Element 17 requires that management reviews include assessment of system effectiveness based on established performance measures. The management review conducted in May 2010 did not assess performance of the biosolids program against performance measures.

3D. Opportunities for Improvement

Opportunities for improving the LA City biosolids program are described in the "Detailed Audit Results" section of this report.



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3E. Verification Statement

Based on the results of this audit, KEMA has verified that the management system being used by LA City in managing its biosolids program continues to meet the expectations and requirements of the National Biosolids Partnership Biosolids EMS Program. Continuing certification within the NBP Biosolids EMS Program is recommended.

3F. Agreements

LA City will implement the approved corrective action plans for each nonconformance identified during this audit in a timely manner and review the corrections internally within 6 months. KEMA will verify the effectiveness of actions taken to correct the nonconformances during or before the next assigned third party audit. If LA City wishes, that corrective action audit may occur separately at an agreed time and under a separate scope and cost arrangement.

NBP requires that the entire LA City biosolids management system be covered at least once by accredited third party audits over the course of the 4 years between Verification and Reverification. KEMA verified the LA City management system in 2003 and 2008 and interim audits are due in 2009, 2010, 2011 and 2012. LA City and KEMA have agreed internal audits can be used as interim audits in 2009 and 2011 and third party audits will occur in 2010 and 2012. The scope of the third party audits will be such that the entire LA City Biosolids Program will be covered during those audits. LA City will make arrangements for the 2012 interim audit directly with KEMA, as requested by NBP.

3G. 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, Dr. Eileen O'Neill by e-mail at eoneill@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).



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4. AUDIT OBSERVATIONS + RESULTS

The following describes the results of KEMA's audit of each management system process and the level of conformance of the process with all applicable requirements of the EMS Elements. The National Biosolids Partnership Biosolids EMS Auditor Guidance (August 2007) and the KEMA Audit Planning Guide for Biosolids EMS Audits were used as guides in performing each audit. The City of Los Angeles has prepared Corrective Action Plans for all nonconformances and KEMA's Lead Auditor has approved those plans.

4A Significant Changes

No significant changes have occurred in the past year affecting the LA City biosolids program or the critical control points. The TIRE project (deep weel injection) remains in development and has not been commissioned or approved for continuing use.

4B Review of Open Nonconformances

The auditor reviewed corrective actions taken in response to the following nonconformances that remained open from the Verification Audit conducted by KEMA in August 2008. Results of that review are described below.

Minor Nonconformance 08-03E / Element 5 NBP EMS Element 5 requires that biosolids objectives be measurable. Some biosolids (EMS) objectives in 2007-8 and 2008-9 are not stated in a way that allows the improvement to be measured.

Corrective Action – LA City determined that this nonconformance was caused by a misinterpretation of SMART criteria. In response to the nonconformance LA City modified some of the 09-10 objectives to include measurability (e.g. number of SIUs inspected) and others to denote a target based on timing (e.g. complete by June 30, 2010). This nonconformance is now closed.

Minor Nonconformance 08-04E / Element 5 NBP EMS Element 5 requires that action plans be developed for each biosolids objective. Action plans have not been developed for those biosolids (EMS) objectives that are not directly related to Division goals.

Corrective Action – LA City determined that this nonconformance was caused by Division Representatives failing to complete required action plans. In response to the nonconformance LA City developed action plans for each 09-10 objective that included steps, responsibility and timing. This nonconformance is now closed.

Minor Nonconformance 08-08E / Element 14 NBP EMS Element 14 requires that root cause be identified for nonconformances and LA City requires a responsible person be identified for taking corrective / preventive action. Corrective actions 07-01i, 02i, 04i and 05i do not fully identify root cause or clearly indicate the person(s) responsible for taking and verifying corrective action.

Corrective Action – LA City determined that this nonconformance was caused by lack of understanding. In response to the nonconformance LA City determined root causes of the



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internal audit nonconformances and developed corrective action plans that address those causes. This nonconformance is now closed.

Minor Nonconformance 08-09E / Element 17 NBP EMS Element 17 requires that Management Reviews address performance relative to policy commitments and the continuing suitability, adequacy and effectiveness of the management system and LA City Element 6 requires that they address "public comments received". The most recent management review (5/28/08) does not discuss public comments or performance against policy commitments or make any conclusion and/or recommendation about the suitability, adequacy and effectiveness of the management system.

Corrective Action – LA City determined that this nonconformance was caused by their understanding that lack of any action required needs to be recorded. In response to the nonconformance LA City modified the recording of management reviews to include performance relative to policy, the continuing suitability, adequacy and effectiveness of the management system and discussion of public comments received. This nonconformance is now closed.

Minor Nonconformance 08-12E / Element 10 LA City's definition of critical control points and operational controls (glossary) requires that they address "legal, quality and public acceptance requirements". The critical control points and operational controls and related monitoring and measurement identified by LA City (EMS Manual elements 3, 10 & 13, respectively) do not make a clear reference to legal, quality or public acceptance requirements.

Corrective Action – LA City determined that this nonconformance was caused by lack of understanding. In response to the nonconformance LA City modified their critical control points and operational controls table to address applicable legal and other requirements and quality requirements. This nonconformance is now closed.

4C Nonconformances Remaining Open

Other than new nonconformances identified during this audit (see Section 3 of this report), no nonconformances from previous third party audits remain open at the end of this audit.

4D Process Audit - Biosolids Preparation

(incl wastewater treatment, solids stabilization, conditioning & handling) – Hyperion

Wastewater entering the plants proceeds through headworks screening, with solids collected from primary and secondary clarifiers. Anaerobic digesters treat primary sludge and thickened waste. After digestion, solids are stored in holding tanks prior to centrifuge dewatering, loading and transport to use sites. Bioslids are monitored to ensure they meet key regulatory requirements, including Class A 503 and AQMD regulations. Operational controls at identified critical control points address these requirements as well as environmental performance (greenhouse gas, energy, nuisance), quality (flowability, unacceptable foreign materials) and public acceptance (odor, noise, light) requirements. Saples are taken daily and fecal, salmonella, Helminth ova and enteric virus are tested monthly. New operators with no experience are trained using a 3 year program that includes State Certification and on the job mentoring.



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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 / 10-01 / 2 NBP EMS Element 2 requires the Biosolids Management Policy to be integrated into biosolids activities. Poor housekeeping was evident in Digester D battery, centrifuge area and truck loading (scaffolds, ladders left in place, hoses on ground, live electrical wires on floor, plastic bags in tunnels, equipment left on floors, cigarette butts on ground, control panels taped over). This is not consistent with commitment to Quality Practices included in commitment to Code of Good Practice.

4E Process Audit – Biosolids Loading & Transportation – Hyperion

Dewatered biosolids are stored in holding tanks for transfer to trucks that deliver the solids to end use sites. Trucks are operated by contractors under agreement from the Bureau of Sanitation. Trucks are loaded by LA City operators, with truck drivers in attendance. An inspection detrmined that spill response information and equipment is available on the trucks.

Audit Results

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

4F Process Audit – Biosolids Use & Disposition – Griffith Park Composting Facility

LA City uses biosolids produced at Hyperion at the Griffith Park Composting Facility, which they operate directly. Each operator receives annual training in requirements of the LA City biooslids EMS. A compilation of Compost Sie Information has been prepared and is available to describe operational controls, emergency plans and other key information that pertains to the facility. Logs of operating data are maintained for each day's production.

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 / 13 NBP EMS Element 13 requires monitoring and measurement to assure compliance with legal and other requirements and to measure biosolids program performance at critical control points. At the Griffith Park Composting Facility, it is uncertain what steps will be taken if compost piles are found to not meet fecal and/or metal requirements and records of monitoring for compliance with US Composting Council STA Program (other requirement) are not readily available.

In addition, the following opportunities were noted:

 The Griffith Park Composting Facility Emergency Action Plan could include procedures to follow in the event of a biosolids spill and in the event of n overflow of the retention pond.



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4G Process Audit - Communication Program (incl public participation)

Information about the LA City bisolids program, including the biosolids policy, is available on their website and through an "EMS Hotline". An annual Biosolids Program Performance Report is issued to over 3,000 identified interested parties. In addition, regular updates are sent to interested parties via e-mail. Biosolids "outreach events" are tracked and have remained approximately constant for the past several years. Operrators respond to complaints / comments received from external parties and a record is kept. Internal communication about performance of the biosolids program occurs in regular staff meetings and through the annual program report. The State Biooslids Regulator stated that LA Cty's communication with her office was satisfactory and asked if Griffith park could issue their annual report in a more timely manner since that report was submitted one month later than required.

Audit Results

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

4H Process Audit - Control of Contractors

Contractors are used to haul and land apply LA City biosolids. In addition, a subcontractor uses the biosolids for composting. A written agreement between LA City and each contractor defines requirements of each party, including those related to EMS requirements. Regular meetings occur with each contractor for communication and to ensure understanding of biosolids plans. In addition, LA City inspects each end use site regularly to ensure requirements are being met.

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:

 Responsibilities (and/or expectations) for contractors related to EMS requirements could be more clearly stated in their contractual agreements.

4I Process Audit - Corrective and Preventive Action

Nonconformances identified in third party and internal audits require formal corrective action, including cause analysis, corrective action and verification of effectiveness. Noncompliances are also handled by this process, however none have occurred.

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:



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 The formal corrective action process could include a final step verifying that the action taken was effective in eliminating the problem (i.e. addresses cause).

 A more representative systematic cause (e.g. ineffective corrective action) could have been assessed for the repeat TWAS release in 2010.

4J Process Audit - Critical Control Points & Operational Controls (Identification)

Critical control points and related operational controls are identified and periodically reviewed by the Biosolids Action Team and listed in the EMS Manual. They are also reviewed when changes are made to operational controls, policy/goals/objectives or to legal/other requirements. LA City has chosen not to include wastewater treatment as part of their biosolids value chain since, in their opinion, that step does not directly influence biosolids quality or regulatory requirements that apply to biosolids.

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:

 The identification of critical control points and operational controls could more clearly describe (or reference) quality, public acceptance and regulatory requirements in addition to environmental impacts (see LA City definition of critical control points).

4K Process Audit - Document Control & Recordkeeping

Documents and records related to the LA City Biosolids EMS that require control are identified in the EMS Manual. Documents are controlled through identification, with changes and approvals noted on a document control page. Most EMS documents and records are maintained on an internal server (BEDRTS). Checks of various documents and records during this audit indicated effective control (transaction test).

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:

- The Document Control and Recordkeeping procedure could be simplified for better understanding & acceptance.
- When writing / revising SOPs, a section referencing environmental, health and safety concerns could be helpful to alert users to potential problems in these areas.



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4L Process Audit – Emergency Preparedness

HRDD provides emergency planning and response for all Bureau of Sanitation Divisions. Written emergency planning includes communication procedures and disaster preparation, including power failure, hazardous waste emergencies and biosolids apills. Biosolids contractors and use locations each have their own emergency plans related to biosolids apills.

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:

 Incident investigations (e.g. TWAS spill February and May 2010) could be done following a consistent and prescribed format.

4M Process Audit - Goals & Objectives

Overall goals for the biosolids program are stated in the authorized Biosolids Policy Statement. Objectives are set annually based on goals for each Division and a "scoreboard" tally is used to monitor performance in achieving these objectives. Four of six objectives for fiscal year 2009 / 2010 were achieved (one was not achieved and one was deferred). The Biosolids Action Team determines steps, responsibilities and desired timing for achieving each objective.

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 / 10-02 / 5 NBP EMS Element 5 requires that objectives be stated in a measurable way. Five of six objectives planned for 2010 / 11 are not measurable, except as a "yes/no" accomplishment within the prescribed timing.

In addition, the following opportunities were noted:

 The Scoreboard used to track progress in achieving objectives could summarize performance against the objective and could note reasons and/or actions for action steps that are not accomplished as planned.

4N Process Audit – Internal EMS Audits

Each Division that can influence the Bureau of Sanitation biosolids program perform and annual self assessment of conformance with requirements of the EMS,. A questionnaire is completed and sent to the EMS Coordinator for review. In additon, a complete internal audit is performed bi-annually covering all aspects of the EMS, including contractors. Internal auditors qualified through appropriate training are used. Audit results are reported to the BAT for review and included in the annual Biosolids Program Performance Report.

Audit Results



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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 / 10-04 / 14 NBP EMS Element 16 requires a corrective action plan to address nonconformances found during internal audits and Element 14 requires that plan to include identification of cause, responsibility and timing. The Internal Audit conducted in May 2010 had findings, however it is not clear what the cause of the finding is or whether corrective action has been completed effectively and on time.

40 Process Audit - Management Involvement

(incl Policy, EMS Planning, Roles & Responsibilities, Mgmt Review)

The LA City "Biosolids Policy Stareent" has been in place since 2007 and includes commitments and overall goals for the biosolids program and is available on the Bureau of Sanitation website. A Biosolids Action Team (BAT), comprised of Division Managers and other key personnel, plan the biosolids program and ensure it is effective in meeting requirements, including EMS Elements. BAT tracks progress in achieving biosolids objectives, regulatory compliance and implements improvement programs and recommends improvements to the Management Review Team. A report summarizing management review discussion is issued at least annually.

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 / 10-05 / 17 NBP EMS Element 17 requires that management reviews include assessment of system effectiveness based on established performance measures. The management review conducted in May 2010 did not assess performance of the biosolids program against performance measures.

Minor Nonconformance JS / 10-01 / 2 NBP EMS Element 2 requires the Biosolids Management Policy to be integrated into biosolids activities. Poor housekeeping was evident in Digester D battery, centrifuge area and truck loading (scaffolds, ladders left in place, hoses on ground, live electrical wires on floor, plastic bags in tunnels, equipment left on floors, cigarette butts on ground, control panels taped over). This is not consistent with commitment to Quality Practices included in commitment to Code of Good Practice.

In addition, the following opportunities were noted:

- LA City's commitment to follow the principles of NBP's Code of Good Practice could be more specifically noted in the Biosolids Policy Statement to make this commitment more visible.
- A formal Management of Change procedure could be useful in planning, organizing and completing significant changes (e.g. need for SOPs, documentation, communication).

4P Process Audit - Pretreatment

The Industrial Waste Management Division (IWMD) controls wastewater collected from indistrial and commercial dischargers through permits and voluntary programs. Inspections of industrial sites are



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performed several times each year to ensure permit requirements are being met. Hospitals and dental offices are likewise permitted and inspected regularly. Regular communication occurs with Hyperion and Terminal Island personnel to ensure awareness of requirements and to ensure plant personnel are aware of incoming streams.

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:

 The dental office and clinic control program and the program in place to assess and attempt to reduce emerging concern pollutants could be added to IWMD operational controls.

4Q Process Audit - Process Engineering (Plant Mgmt)

New capital projects begin with a "concept report" and proceed through various stages of design to capital approval. When contractors are selected to work on these projects they are made aware that they must operate consistent with the LACity Biosolids Policy, including Code ogf Good Practice. Several projects have been undertaken in recent years to improve overall environmental performance and to respond to public issues in planning these initiatives.

Audit Results

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



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Biosolids EMS Interim Audit Report

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APPENDICES

List of Participants

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

LA City Personnel

Lonnie Ayers Environmental Engineer, IWMD

Emmanuel Alloh Environmental Engineer, Hyperion Biosolids Management Group,

William Andrews Griffith Park Composting Facility
Thomas Ardent Senior Operator, HTP Safety
Jeffrey Beller Assistant Division Manager, EMD

Paul Blount Solids Resources Manager I, Griffith Park Composting Facility

Susan Chang Senior Chemist, EMD
Tim Dafeta Division Manager, IWMD
Art Duarte Senior Operator, Hyperion
Steve Fan Plant Manager, Hyperion

Diane Gilbert Jones Environmental Engineer Associate IV, RAD

Jimmie Harrison Wastewater Treatment Operator III
John Karroum Griffith Park Composting Facility
Paul King Senior Operator, Hyperion
Cindy Kovacs Environmental Engineer, HRDD

James Kurz Solid Waste Disposal Superintendent II

Ernesto Libunao Environmental Engineer Associate, Hyperion Biosolids Management

Group,

Derrick Lee EMS Coordinator

Mike Lee Chief Environmental Compliance Inspector I, IWMD

Arturo Perez Environmental Compliance Inspector

Constantino Pano Environmental Engineer Associate, Griffith Park Composting Facility,

Francisco Ramirez Senior Operator, Hyperion

Rosalia Rojo Environmental Engineer, Griffith Park Composting Facility

Michael Ruiz Shift Superintendent II, HTP Operations Manager

Michael Simpson Assistant Manager , IWMD
Jordan Siplon Shift Superintendent I, Hyperion
Case Spencer HRDD Safety Environmental Engineer

Mark Starr Hyperion Engineering Manager,

CharlesTurhollow Division Manager, HRDD Loudmilla Vertanessian Environmental Engineer, IWMD

Bellete Yohannes Chief Environmental Compliance Inspector II, IWMD

Interested Parties

Lauren Fondahl USEPA Region 9

Jennifer Thompson CDM

Martin Rosen City of Los Angeles Local Enforcement Agency Inspector

Report Date: September 7, 2010



City of Los Angeles Bureau of Sanitation Audit Dates: August 9 to 12, 2010

Observers

Denny Schneider Julie Jacobe Nader Tashakor IRP Stakeholder, Chair - LAX Community Noise Roundtable

Internal Audit Team Member



City of Los Angeles Bureau of Sanitation Audit Dates: August 9 to 12, 2010

List of Documents & Records Reviewed

Balanced Scoreboard 2009 / 10

BAT Management review meeting 5/27/10, 6/25/09, 4/30/09

BAT Management Review Meeting minutes (April 009, June 2009, May 2010)

BAT meeting summaries (3/5/09, 9/24/09, 2/4/10, 5/27/10)

Biosolids brochures (various)

Biosolids EMS brochure

Biosolids EMS Objectives 2009/10

Biosolids goals and objectives (proposed)2010-11

Biosolids Outreach events chart 2002-09

Biosolids Program Goals (2004)

Biosolids Program Performance Report 2009

Biosolids Public Inquiries chart 2002-09

Bureau of Sanitation Website

City of Los Angeles / Solid Solutions Agreement 10-03-06

Corrective Action Forms (various)

Daily operating logs and records (various)

Daily Shift Instructions (various)

DCS screens (various)

Emergency Action & Fire Prevention Plan GPCF (8/2/10)

Harvard School Award (issued to LA City 2009)

Hyperion / El Segundo Citizens Forum Minutes 3/4/09

Internal audit checklist 2010

Internal audit findings 5/27/10

Internal audits summary 1/29/09

LA City status of goals & objectives 2009-10 (June 2010)

Load tickets (various)

MSDS (various)

Objectives action plans (various)

Operator Certificates of Competence (various)

Shift Instructions (various)

Significant Industrial Users Summary July 1/09 - June 30/10

SOPs (various)

SOPs (various)

SPCC Plan 11/07

Spill response plan (truck) (not dated)

TWAS Centrifuge Operating Procedure (SOP WTF001) 5/8/08

TWAS incident reports 2/18/10, 5/10/10

END OF REPORT