

**National Biosolids Partnership  
Biosolids EMS Audit Report**

**City of Los Angeles Bureau of Sanitation  
Los Angeles, California**

Audit Dates: April through June 2011

Audit Conducted By:

The City of Los Angeles

Auditors: Paul Cobian, Environmental Engineer Assoc., Regulatory Affairs Division  
Jeffrey Beller, Assistant Division Manager, Environmental Monitoring Division  
Diane Gilbert Jones, Environmental Engineer Assoc., Regulatory Affairs Division  
Derrick Lee, EMS Coordinator, Hyperion Treatment Division

Audit Report Date: August 19, 2011

Report Written By: Audit Team

Report Reviewed By: Derrick Lee and Diane Gilbert Jones

Report Approved By: Traci Minamide, COO

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

1	EXECUTIVE SUMMARY .....	3
2	AUDIT DETAILS .....	4
2A	Local Agency Details .....	4
2B	Audit Team .....	4
2C	Audit Scope and Methodology.....	4
2D	Reference Materials .....	5
2E	Definitions of Audit Findings & Required Corrective Action.....	6
3	SUMMARY OF AUDIT RESULTS .....	6
3A	EMS Strengths .....	6
3B	Outcomes .....	6
3C	Nonconformances .....	7
3D	Opportunities for Improvement .....	7
3E	System Performance .....	8
3F	Certification Statement .....	8
3G	Agreements .....	8
3H	Addressing Audit Results .....	8
4	AUDIT OBSERVATIONS + RESULTS .....	8
4A	Significant Changes.....	9
4B	Review of Open Nonconformances.....	9
4C	Nonconformances Remaining Open .....	11
4D	Process Audit – Biosolids Use & Disposition – Agric (CA) (incl. contractor control) .	12
4E	Process Audit – Biosolids Use & Disposition – Composting – Griffith Park .....	13
4F	Process Audit – Competency, Awareness & Training (internal Communications) ..	14
4G	Process Audit – Corrective and Preventive Action .....	14
4H	Process Audit – Document Control & Record keeping .....	15
4I	Process Audit – Communication Program (incl public participation) .....	15
4J	Process Audit – EMS Documentation .....	16
4K	Process Audit – Goals & Objectives.....	16
4L	Process Audit – Maintenance.....	17
4M	Process Audit – Management Involvement (Policy, Planning, Roles & Responsibilities, Mgmt Review).....	17
	APPENDICES.....	19
	List of Participants.....	19
	List of Documents & Records Reviewed.....	20
	List of Abbreviations.....	21

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

## **1 EXECUTIVE SUMMARY**

The City of Los Angeles Internal Audit Team conducted an independent audit of the Environmental Management System (EMS) being used by Bureau of Sanitation in managing its biosolids program. The audit was performed April through June 2011. This audit was the third interim audit in the current cycle following third party verification by the independent auditor, KEMA of the City's biosolids program in 2008.

The purposes of this audit were to:

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

During the audit the City's audit team reviewed several processes and activities used 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 the City and independent third party auditor, KEMA.

The audit determined that:

- The management system is generating positive outcomes, particularly sound management practices at Green Acres farm and Griffith Park Compost Facility.
- The City's biosolids management system meets requirements of the City's and NBP's EMS Elements with one (1) nonconformance. This nonconformance does not represent a systemic problem.
- All nonconformances from prior third party audits have been addressed and will be verified during the next third party audit scheduled for 2012.
- All nonconformances identified during the 2010 Internal Audit conducted by the City were reviewed and verified and the nonconformances identified during 2010 Interim Third Party audit were reviewed.
- Several "opportunities for improvement" were noted.

Based on results of this audit, the Audit Team finds the biosolids management system being used by City of Los Angeles, Bureau of Sanitation meets the expectations and requirements of the NBP EMS Elements. Conducting the interim audit and completing this report satisfies the requirements for continuing certification within NBP's Biosolids EMS Program.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

## **2 AUDIT DETAILS**

### **2A LOCAL AGENCY DETAILS**

Agency Name, Location: City of Los Angeles Bureau of Sanitation, Los Angeles, California

Biosolids Production Location(s): Hyperion Treatment Plant (HTP), Terminal Island Water Reclamation Plant (TIWRP)

Number of Employees: 2600 (approximately)

Approximate Wastewater Treated: Hyperion Treatment Plant = 330 MGD  
Terminal Island Water Reclamation Plant = 29 MGD

Approximate Biosolids Produced: Hyperion Treatment Plant = 620 wet tons/day  
Terminal Island Water Reclamation Plant = 35 wet tons/day

#### Biosolids Use / Disposition Sites Audited

Green Acres Farm Land Application, Kern County  
Griffith Park Composting Facility, Los Angeles

#### Contractors Participating

Responsible Biosolids Management (RBM)

### **2B AUDIT TEAM**

The Bureau of Sanitation selected staff from the divisions that support the biosolids management program to perform this audit. Each team member has at least three or more years of experience working for the Bureau of Sanitation. The auditors are qualified for their roles through training and certification provided by the City and their knowledge of the biosolids management program. Each audit team member completed the Biosolids Auditor Training and the Biosolids EMS Overview training. (To review a profile of the audit team members, contact the City's EMS coordinator at 310-648-5646 or [derrick.k.lee@lacity.org](mailto:derrick.k.lee@lacity.org))

#### Audit Team Members

Jeffrey Beller, Environmental Monitoring Division  
Paul Cobian, Regulatory Affairs Division  
Diane Gilbert Jones, Regulatory Affairs Division  
Derrick Lee, EMS Coordinator, Hyperion Treatment Plant

### **2C AUDIT SCOPE AND METHODOLOGY**

The scope of this audit covered parts of the City biosolids program, which encompasses transportation and end use / disposition, with special attention to practices and management

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

activities that directly support biosolids use options and their 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 the City and the third party auditor KEMA.

1. Discussion of any significant changes
2. Review of nonconformances from 2010 Interim Third Party Audit and nonconformances from the City's 2010 internal audits.
3. Examination of outcomes being achieved by the City in the areas of regulatory compliance interested party relations, environmental performance, and quality practices.
4. Process Audits:
  - Biosolids Transportation – Griffith Park and Green Acres Farm
  - Biosolids Use & Disposition – Composting – Griffith Park
  - Biosolids Use & Disposition-Agricultural (CA)
  - Control of Contractors
  - Corrective and Preventive Action
  - Competency, Awareness & Training (incl internal communications)
  - Document Control & Record keeping-Contractor/Griffith Park
  - Communication Program (incl public participation)
  - Goals & Objectives
  - EMS Documentation
  - Maintenance
  - Management Involvement (incl Policy, Mgmt Review, Control of Contractors)

The audit was conducted by interviewing key personnel involved with 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. The audit was conducted as a systems audit and is not a verification of compliance with any legal requirements applicable to biosolids practices performed by the agency or its contractors. The audit was performed using sampling techniques in a manner that is consistent with the NBP Auditor Guidance (August 2007) and the City's internal audit checklists.

## **2D REFERENCE MATERIALS**

The following documents were used as references during this audit:

- City of Los Angeles Bureau of Sanitation EMS Manual (current version)
- City of Los Angeles Auditor Training Manual
- National Biosolids Partnership Code of Good Practice
- National Biosolids Partnership Manual of Good Practice –Appendix F
- City of Los Angeles 2009 and 2010 Interim Audit Reports
- City of Los Angeles Nonconformance Report
- City of Los Angeles May and August 2010 Management Review Summary

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**2E DEFINITIONS OF AUDIT FINDINGS & REQUIRED CORRECTIVE ACTION**

Nonconformance – an isolated departure from requirements that does not represent a systemic failure. Nonconformances require timely and effective correction and verification during audits.

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

**3 SUMMARY OF AUDIT RESULTS**

**3A EMS STRENGTHS**

The Audit Team noted the following strengths in the City's biosolids management system.

- The Bureau of Sanitation's communication process for alerting and informing the public about changes and updates to the program are effective.
- The communications between contractor, farmer, and City staff at Green Acres farm continues to be open and transparent.
- The Bureau's public outreach and communications program is effective and has resulted in positive feedback and recognition from several sources, including other City Departments and outside governmental agencies and organizations.
- The Bureau of Sanitation's process for maintaining contractor control has resulted in improved operations, continued regulatory compliance, and allowed continued use of biosolids at Green Acres Farm.

**3B OUTCOMES**

The City's biosolids program is improving through the use of the management system. The following outcomes were seen:

Regulatory Compliance

Regulatory compliance continues at the Green Acres Farm.

Monthly reporting of monitoring and measurement results has helped improve relationships with regulatory agencies and other interested parties.

The City consistently monitors and tracks treatment plant operations to ensure that regulatory compliance requirements are met.

Environmental Performance

The City continues to produce a Class A product that is beneficially used at Green Acres as a soil amendment and fertilizer to grow healthy crops that are sold to local dairies and others in Kern County.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

The Griffith Park Compost Facility continues to provide a quality compost product that is accepted and used by City, landscapers, and donated for public events.

Interested Party Relations

The Bureau of Sanitation's public outreach program continues to expand and provides interested parties opportunities to make informed decisions about the program's future.

The City's website continues to be the most used outreach media and frequent updates allows interested parties access to current information about the program, (i.e. TIRE project and Measure E litigation updates)

Quality Practices

The City's review and control of Standard Operating Procedures (SOPs) has helped achieve biosolids program goals and maintain a nationally certified biosolids management program.

The City's incorporation of on-line new and existing training modules and material, including auditor training for biosolids has saved the City money through reduced overtime and reduction in resources such as paper and staff.

The process used by the City to track contractor progress and activities has allowed continue use of biosolids at Green Acres.

Griffith Park Compost facility continues to following industry standards and best management practices for compost production and use.

**3C NONCONFORMANCES**

During this audit, the City audit team found one (1) nonconformance with respect to the audit criteria, as described below and in the "Audit Results" section of this report. Review of this nonconformance does not represent a systemic deficiency. The City will address and track the nonconformance in the Biosolids Action Team (BAT) meeting. The effectiveness of corrective action will be verified before or during the next audit.

Minor Nonconformance / 11-021 / The City EMS procedures and NBP Element 10 require that all Standard Operating Procedures SOPs be reviewed and updated. The Griffith Park Composting Facility – Report of Compost Site Information SOP was updated in November 2010. Review of Appendix B, Figure 2 contains an aerial photo of the Griffith Compost Facility site that shows a conveyor belt crossing the fence of the facility. This photo conflicts with the description of the facility given in the Plan and what currently exists.

**3D OPPORTUNITIES FOR IMPROVEMENT**

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

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

### **3E SYSTEM PERFORMANCE**

The Biosolids EMS is performing well and meets the desired expectations and outcomes for managing the City's biosolids. The EMS requirements and standards set by the City are effective in helping the City meet its policy and goals and achieving objectives. This is evident through tracking of goals and objectives; and all goals and objectives were met in 2010-11 except one. The system has helped the City maintain regulatory compliance, achieve improved environmental performance, meet management practices, and allow opportunity for public involvement. Review of the system indicates that processes and procedures established are being used by City staff. Transaction testing and review of records confirmed that the corrective action process is effectively used by the City to improve the system. Nonconformances are being identified, tracked, and corrected along with continual improvements implemented. Interested parties were provided a survey to access the City's communication program. The results show that the City's current communication and outreach program is effective in providing useful information and updates about the City's biosolids management program. The overall program rating was very good, with excellent being the best rating. The City's EMS is healthy and continues to help the City maintain an environmentally sound, cost-effective, and socially acceptable biosolids management program that is protective of the public and the environment.

### **3F CERTIFICATION STATEMENT**

Based on results of this audit, the Audit Team finds the biosolids management system being used by City of Los Angeles, Bureau of Sanitation meets the expectations and requirements of the NBP EMS Elements. Conducting the interim audit and completing this report satisfies the requirements for continuing certification within NBP's Biosolids EMS Program.

### **3G AGREEMENTS**

The Bureau of Sanitation will implement corrective action plans for each nonconformance identified during this audit in a timely manner and review the corrections internally. The City will request that the third party auditor review, verify and close the nonconformances from the 2010 third party interim audit and review the corrective action process used to address the nonconformances identified in this audit.

### **3H ADDRESSING AUDIT RESULTS**

The City of Los Angeles has made this report available to the public and interested parties. If you have any questions concerning the results and findings from the audit or would like to assist us in addressing the nonconformance please contact us at 310-648-5646 or [san.biosolidsems@lacity.org](mailto:san.biosolidsems@lacity.org)

## **4 AUDIT OBSERVATIONS + RESULTS**

The following describes the results of the City's audit of each management system process and the level of conformance of the process with all applicable requirements of the EMS Elements. The



**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

National Biosolids Partnership Biosolids EMS Auditor Guidance (August 2007) and the City's audit checklists were used as guides in performing each audit. The City of Los Angeles will prepare Corrective Action Plans for all nonconformances.

**4A SIGNIFICANT CHANGES**

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

**4B REVIEW OF OPEN NONCONFORMANCES**

The audit team reviewed corrective actions taken in response to the following nonconformances that remained open from the Verification Audit conducted by KEMA in 2010 and those identified by the City. Results of that review are described below.

Minor Nonconformance 10-01E / NBP EMS Element 2 require 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.

Corrective Action –The City determined that this nonconformance was caused by inadequate housekeeping and safety inspections and not enough oversight by Plant Management. The areas of concern were immediately cleaned up after the nonconformance was issued. Work orders were initiated to have the paint shop make labels and signs for the truck loading control room and a new procedure implemented to have housekeeping inspections done quarterly by management and included as part of the operations round sheets. This nonconformance and corrective action was tracked in the Biosolids Action Team (BAT) meeting and an inspection of area confirmed that action implemented was effective in addressing the nonconformance. This nonconformance can not be closed until reviewed by auditor during next third party audit.

Minor Nonconformance 10-02E / NBP EMS Element 5 require 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.

Corrective Action –The City determined that this nonconformance was caused by lack of understanding regarding SMART criteria. To address this nonconformance the City reviewed and revised each objective in BAT meeting to meet SMART criteria. Once the objectives were changed they were approved by management and incorporated into 2010-2011 scoreboard. BAT meeting summaries were reviewed and also the scoreboard. The action implemented to address this nonconformance was effective. This nonconformance can not be closed until reviewed by auditor during next third party audit.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

Minor Nonconformance 10-03E / 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.

Corrective Action –The City determined that the nonconformance was caused by incomplete Standard Operating Practices (SOPs) and oversight in providing records at facility. The SOPs were reviewed and revised to address compost piles not meeting requirements and the records to show compliance were provided on-site. Training was done for the revised SOPs. During this audit the SOPs and records were reviewed and changes verified. This nonconformance can not be closed until reviewed by auditor during next third party audit.

Minor Nonconformance 10-04E / 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.

Corrective Action – The City determined they the cause of the nonconformance was due to not following the City's EMS procedures for addressing findings from audits. The findings from the May 2010 audit were identified; nonconformances addressed with corrective action plans and tracked in the BAT meeting. During this audit the BAT meeting summaries were reviewed and evidence shows that the nonconformances and corrective actions plans were tracked. The verification of the May 2010 audit nonconformances is included in this section below. This nonconformance can not be closed until reviewed by auditor during next third party audit.

Minor Nonconformance 10-05E / NBP EMS Element 17 require 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.

Corrective Action – The City determined they the cause of the nonconformance was not recording the discussion and outcomes regarding system performance in the BAT management review meeting summary. During this audit evidence was reviewed that showed system performance against performance measures was discussed in the August 2010 and April 2011 BAT management review meeting and during the 2011 internal audit. This nonconformance can not be closed until reviewed by auditor during next third party audit.

Minor Nonconformance 10-011 / The City's EMS procedures Element 11\_requires that operating divisions conduct emergency response training annually. Some divisions/sections have not completed their annual treatment plant response training (Emergency response)

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

Corrective Action –The City determined that this nonconformance was caused by a lack of understanding regarding who was required to take the treatment plant response training. In response to the nonconformance all divisions at HTP and TIWRP (operating facilities) will tailgate the treatment plant response training on the date of the annual evacuation drill. For 2011 this will be on January 12th. Special emphasis will be placed on students understanding what the training is for and on who is required to have the training. Training records were reviewed verifying the treatment plant response training had been conducted. This nonconformance is now closed.

Minor Nonconformance 10-02I / The City's EMS procedures Element 10 requires that Standard Operating Procedure be reviewed and updated per the document control procedures. Some divisions have not updated and/or reviewed their SOPs.

Corrective Action –The City determined that this nonconformance was caused by change in Griffith Park personnel and no procedures available for HTP biosolids spills beyond Imperial Highway. Procedures were developed for new employees responsible for Griffith Park Composting and the HTP biosolids spill response procedures for the treatment plant was revised to include spills that occur beyond Imperial Highway. Training was provided on both procedures to appropriate staff. The auditor reviewed the HTP biosolids spill response plan and conducted a transaction test with the truck driver to verify effectiveness of corrective action implemented. Griffith Park SOPs were reviewed and verified that they were up to date and followed the document control procedures. Training documents were also reviewed. This nonconformance is now closed.

Minor Nonconformance 10-03I / The City EMS procedures requires compliance with all regulations and that Notice of Violations (NOV) s be addressed. A NOV was issued to the contractor regarding storm water runoff from the farm onto adjacent property, a violation of nuisance ordinance.

Corrective Action –The City determined that this nonconformance was caused by the weather, too much rain in a short period of time. In response to the nonconformance the City's contractor and farmer contained the water, provided pumps in field to prevent overflow, and assisted the adjacent property owner with pumping water from his area. The contractor responded with a letter to Kern County Environmental Health Services (EHS) addressing the incident and provided an emergency action plan to prevent future incidents from occurring. Kern's EHS toured the site and was satisfied with the action taken and preventative measures implemented. The auditor interviewed farm staff, reviewed the corrective action form, emergency action plan, and Green Acres site during the audit to verify corrective action was implemented and effective. 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 internal audits remain open at the end of this audit.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**4D PROCESS AUDIT – BIOSOLIDS USE & DISPOSITION – AGRICULTURE (CA) (INCLUDING CONTRACTOR CONTROL)**

Class A biosolids are delivered to the Green Acres Farm in Kern County and land applied by RBM under contract with the City. Biosolids are applied to land producing alfalfa, silage, Milo corn and Sudan grass. The operation is supervised daily by an on-site City Farm Manager and inspected at least weekly by a City Environmental Compliance inspector. RBM and the farmer follow best management practices to ensure that correct agronomic rates are applied. Operational controls in place are consistent with the City's requirements, including documented plans / procedures and training. During this audit RBM demonstrated appropriate practices in unloading and applying biosolids at the site. The Field Supervisor demonstrated proficient knowledge of the daily land application operations, spreading, training, and reporting requirements. Biosolids are loaded into trailers equipped with sealed end gates at HTP, and covered before leaving the treatment works. Trucks follow routes that are approved by the City and RBM. Deviations from these routes (due to blocked roads or accidents) must be approved by the dispatch center prior to taking the alternate route. The trucks are directed to specific staging areas on the application fields by use of cones, signs, and gates. Both the trucks and trailers are cleaned before returning to the public roads. Transportation/hauler employees are trained by the subcontractor responsible for transporting the biosolids. This training also includes RBM who is responsible for site-specific training related to field staging, off-loading, and washing of truck. During this audit the truck driver demonstrated proficient knowledge of the appropriate practices related to transporting biosolids, truck inspection and maintenance, spill response procedures (no spill, minor, or major), and communication protocol when dealing with any news media. Contracts with each contractor define expectations and requirements for contractor performance, including conformance with the City's Biosolids EMS. LA City inspectors visit each end use site to ensure conformance with requirements. In addition, an onsite City Farm Manager is stationed at the Green Acres Farm to plan and review biosolids use at this location daily. Contractors are also required to ensure their subcontractors (e.g. biosolids transportation) abide by the EMS requirements and this conformance is discussed periodically with the primary contractor. Appropriate measures are in place to monitor and track contractor activities including monthly meetings at the site and weekly, monthly, and annual reports that are submitted to the City.

Audit Results

Audit of the process described above found it meets City's and NBP expectations and conforms to applicable requirements of the EMS Elements.

In addition, the following opportunities were noted:

- Contractor could implement procedures to ensure drivers are aware of and adhere to transportation rules. A truck observed (driver unknown) transporting biosolids was traveling between 65-70 mph on 5 northbound and Smokey Bear Road.
- The use of words such as 'appropriate', 'continuously', and 'periodically' when referring to employee training are found to be vague and subject to interpretation. This can be better defined in the contractor site management plan.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**4E PROCESS AUDIT – BIOSOLIDS USE & DISPOSITION – COMPOSTING – GRIFFITH PARK**

The City uses biosolids produced at Hyperion at the Griffith Park Composting Facility, which they operate directly. Each operator receives training in requirements of the City's biosolids EMS. A compilation of Compost Site 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. The staff interviewed were knowledgeable of their roles and responsibilities related to the facility operations and also the EMS program. The facility is well-maintained and clean and has received no complaints or notice of violations. The facility received a previous minor nonconformance because their operating procedures did not contain follow-up actions for exceedance of the bacterial standards. The Site Plan was updated to include follow-up actions in the event of a fecal coliform exceedance. Additionally, the plan was revised to include provisions to provide notification to anyone receiving off-spec compost. Training was conducted on the changes to site plan. This was verified through review of records. The City truck driver transporting the biosolids to Griffith Park was interviewed and transaction test conducted on emergency response procedures. The driver was aware of the procedures to follow and showed proficient knowledge of what to do in the event of a biosolids spill. He was also knowledgeable about the off-loading and process used to construct compost piles using biosolids. The transaction test verified the effectiveness of the action implemented to address a past nonconformance regarding transportation requirements for spills at Griffith Park.

Audit Results

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

- Nonconformance 11-02I/ The City EMS procedures and NBP Element 10 require that all Standard Operating Procedures SOPs be reviewed and updated. The Griffith Park Composting Facility – Report of Compost Site Information SOP was updated in November 2010. Review of Appendix B, Figure 2 contains an aerial photo of the Griffith Compost Facility site that shows a conveyor belt crossing the fence of the facility. This photo conflicts with the description of the facility given in the Plan and what currently exists.

In addition, the following opportunities were noted:

- In the Griffith Park Composting Facility – Report of Compost Site Information the second bullet in Section 1.4 of the plan describes TOPGRO® as "A product derived from pesticide-free yard clippings..." Upon discussion with compost facility staff, it was agreed that this statement cannot be made with 100% certainty. Revise the product description for TOPGRO® to address pesticide-free yard clippings statement.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**4F PROCESS AUDIT – COMPETENCY, AWARENESS & TRAINING (INTERNAL COMMUNICATIONS)**

Training programs are established for biosolids related operations at the Hyperion and Terminal Island Plant. The Human Resources Development Division (HRDD) has a section that is dedicated to operator training and has developed specific training modules for biosolids, including the Biosolids EMS. Operator certification is required and training is provided to confirm competency once assigned to biosolids section. Also refresher and awareness training are periodically conducted as needed and requested. Divisions that support biosolids activities can request training as necessary and are responsible for scheduling new employee training. Many of the biosolids related training are available on-line and can be assessed via the Bureau of Sanitation Intranet. Tracking of training is done by the Training Information Management System (TIMS) that is maintained by HRDD and supported by Information Control System Division. Records are available for Bureau of Sanitation employees. HRDD has an objective for biosolids to assist Hyperion Treatment Plant with training new EMS auditors. Several City biosolids auditors have completed various trainings and new trainings are being planned. HRDD objective is on target for completion in August 2012.

Audit Results

Audit of the process described above found it meets the City's and NBP expectations and conforms to applicable requirements of the EMS Elements.

**4G 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 and notice of violations are also handled by this process and was used to address a stormwater runoff incident at Green Acres. Review of the corrective action form and action taken indicated that the current process is effective in addressing noncompliances, regulatory violations, and other issues of concern. An extension audit was performed of past nonconformances received by the City. Transaction tests, review of records, and interviews confirmed that the corrective action process and actions taken to address the nonconformances are effective in helping the City correct issues and improve the program. Review of records showed that no repeat nonconformances were issued except for those related to goals and objectives. The City has made tremendous efforts to improve their goals and objective setting process. This was evident by review of procedures and records used to set and track objectives, and updates provided in the Biosolids Action Team Meeting.

Audit Results

Audit of the process described above found it meets City's and NBP expectations and conforms to applicable requirements of the EMS Elements.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**4H PROCESS AUDIT – DOCUMENT CONTROL & RECORD KEEPING**

Documents and records related to the City's Biosolids EMS that require control are identified in the EMS Manual. Documents are controlled through identification, with changes and approvals noted using the approved document control procedures established by the City. The document control procedures are reviewed as least annually and changes if necessary are approved by BAT and/or the Chief Operating Officer. Most EMS documents and records are maintained on an internal server. The EMS Coordinator is responsible for maintaining the City's EMS manual, which is located in BEDRTS. Responsible parties have been identified for maintaining and controlling documents and records that support the biosolids management program. Checks of various documents and records during this audit indicated effective control. Training on the internal system has been provided to division managers, biosolids division EMS representatives, and biosolids management group staff. Refresher training is available upon request and as needed.

Audit Results

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

In addition, the following opportunities were noted:

- To improve internal maintenance of documents and records configure the system to use Google applications for accessing hyperlinks.

**4I PROCESS AUDIT – COMMUNICATION PROGRAM (INCL PUBLIC PARTICIPATION)**

Information about the City's biosolids program, including the biosolids policy, is available on the City's website. A dedicated biosolids "EMS Hotline" is also available to the public and interested parties. An annual Biosolids Program Performance Report is issued to over 3500 identified interested parties and the latest edition was issued in May 2011. Regular program updates are provided to interested parties via e-mail and meetings. Biosolids "outreach events" are tracked and have remained approximately constant for the past several years. The City responds to complaints / inquiries received from external parties and a record is kept. Internal communication about performance of the biosolids program occurs in regular meetings and through the annual program report. The interested parties interviewed stated that the existing communication program is excellent and provides useful updates regularly. Interested parties also stated that the communication media used was effective and allowed feedback, especially the website. Survey answers provided by the interested parties interviewed indicated that the City's outreach program is effective in providing updates and information about the biosolids program.

Audit Results

Audit of the process described above found it meets City's and NBP expectations and conforms to applicable requirements of the EMS Elements.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**4J PROCESS AUDIT – EMS DOCUMENTATION**

The EMS manual and internal database, BEDRTS provides access to biosolids program documents, and records. The BEDRTS is reviewed at least annually and access is available for all City employees. BEDRTS is maintained by the EMS Coordinator, who is able to add and delete items. Training on BEDRTS is available and provided to new employees as necessary and refresher training is conducted as requested. Each division that supports biosolids activities is responsible for providing documents and records to the EMS Coordinator for placement in BEDRTS. BEDRTS was checked and documents and records were easy to locate. Access to BEDRTS was readily available through the Bureau's Intranet. BEDRTS is electronically maintained which allows for information to be readily accessible and reduces staff time for reproduction and distribution.

Audit Results

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

In addition, the following opportunities were noted:

- To improve internal maintenance of documents and records configure the system to use Google applications, such as Google Doc.

**4K PROCESS AUDIT – GOALS & OBJECTIVES**

Overall goals for the biosolids program are stated in the authorized Biosolids Policy Statement. Annual objectives are set based on program goals and strategic goals set by the Bureau of Sanitation. A balanced scoreboard is used to monitor performance in achieving the objectives. The BAT determines steps, responsibilities and desired timing for achieving each objective. The objective status is reported in the BAT meeting. If changes are necessary to the objective BAT authorizes the changes. The status and completed is tracked in BAT and reported in the annual performance report and on the website. Bases on past audit findings and continual improvement opportunities significant changes have been implemented in the City's program for setting goals and objectives and tracking their process. The procedures currently in place are being followed and have allowed the City to set objectives that are SMART. Review of the BAT meeting summary and balance scoreboard shows that all objectives are on target for completion except one, which relates to validation of Enteric Virus method. BAT addressed the delay in meeting the objective and approved a new completion date. Policy and program goals are being achieved and reviewed periodically to ensure that they are effective in guiding the biosolids management program and reaching desired outcomes. A process is in place to review the policy and goals and make changes are necessary. Changes can be made in the BAT meeting and during management review and review of audit findings. Review of April 2011 Management Review Meeting Summary indicates that the policy and goals were reviewed and discussed during the meeting.

Audit Results

Audit of the process described above found it meets City's and NBP expectations and conforms to applicable requirements of the EMS Elements.



**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

#### **4L PROCESS AUDIT – MAINTENANCE**

Maintenance personnel at the HTP perform the preventative maintenance of the critical control point equipment. The maintenance staff interviewed were knowledgeable of their roles and responsibilities related to the facility operations and also the EMS program. The maintenance section is responsible as a group to ensure that the equipment is properly maintained and there are individual shops (i.e. paint shop, electrical shop, etc) that are responsible for their specific work. Depending on the nature of the maintenance, each individual shop is responsible for ensuring that the equipment is functioning properly. Each shop has a planner that determines priority and daily agendas. The planner gives assignments to the shop supervisors and the shop supervisor assigns field workers tasks. Maintenance managers have a weekly report of the status of completion of preventive maintenance requests and oversee the process. On occasion at daily shifty meetings, HTP Operations requests maintenance when equipment breaks down or is not functioning properly. Once maintenance staff receives the request, field workers input the request into a computer generated system called the Enterprise Maintenance Planning and Control (EMPAC). EMPAC keep records, track assets, process work orders, purchase orders, and distribution of parts. EMPAC is used to generate work orders, schedule work, and track progress. Reports of preventive maintenance can be generated by EMPAC. Equipment status is also tracked in EMPAC. HRDD provides EMPAC training for BOS employees and develops additional EMPAC training as needed. EMS refresher trainings are provided on as needed basis to maintenance staff and there are some laws that require other training be provided at a set frequency, which is coordinated by Maintenance personnel and tracked in TIMS. There were no nonconformances from previous audits that needed to be addressed in this audit and no maintenance related objectives for this fiscal year. Maintenance staff is represented at the BAT meeting and is member of the Management Review Team. Maintenance related issues are addressed in BAT, as necessary.

##### Audit Results

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

In addition, the following opportunities were noted:

- HTP operations do lubrication preventive maintenance that is not included in EMPAC. This lubrication could be documented and recorded in EMPAC.

#### **4M PROCESS AUDIT – MANAGEMENT INVOLVEMENT (POLICY, EMS PLANNING, ROLES & RESPONSIBILITIES, MGMT REVIEW)**

The City's "Biosolids Policy Statement" has been in place since 2004 and includes commitments and overall goals for the biosolids program and is available on the Bureau of Sanitation website. The policy is reviewed at least annually during management review and changes are implemented if necessary. A BAT comprised of Division Managers and other key personnel, plan the biosolids management program and ensure it is effective in meeting requirements and attaining desired outcomes, including EMS Elements. BAT tracks progress in achieving biosolids objectives, regulatory compliance, and recommends and implements programs improvement. BAT meets at

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

least bi-monthly and more if necessary. A report summarizing management review discussion is issued at least annually and made available to the public. The roles and responsibilities and requirements for program resources are also discussed during management review. The management review process is also discussed and BAT makes changes as necessary. The Management Review Team indicated that the overall system is functioning well and helping the City meet its desired outcomes, including the policy and goals. Review of management review summaries show that the process is effective in providing updates, addressing program improvements, and evaluating program performance. The Bureau of Sanitation has in place many checks and balances for maintaining contractor control. A signed binding agreement is executed between City and the contractor. Staff is assigned to ensure that contract requirements are met. Reports are required documenting contractor performance and meetings are held. Environmental Compliance Inspectors inspect the contractor sites frequently and provide written inspection reports concerning the contractor performance related to environmental compliance, best management practices, and housekeeping. Also the City has hired an on-site farm manager at Green Acres to ensure that land application and farming operations are carried out in an environmentally sound and efficient manner. The City has an effective process in place for controlling the contractor and assessing their performance.

Audit Results

Audit of the process described above found it meets City's and NBP expectations and conforms to applicable requirements of the EMS Elements.

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**APPENDICES**

**LIST OF PARTICIPANTS**

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

LA City Personnel

Emmanuel Alloh	Environmental Engineer, Hyperion Biosolids Management Group,
Paul Blount	Solids Resources Manager I, Griffith Park Composting Facility
Derrick Lee	EMS Coordinator, Hyperion Biosolids Management Group,
Constantino Pano	Environmental Engineer Associate, Griffith Park Composting Facility,
Charles Turhollow	Division Manager, Human Resources Development Division
Mark Starr	Senior Environmental Engineer, Hyperion Process Group
Joseph Pascu	Shift Superintendent WWTO, Human Resources Development Division
David Taylor	Senior WWTO, Human Resources Development Division
Jason Harris	Management Analyst I, Human Resources Development Division
Rosalia Rojo	Environmental Engineer, Griffith Park Composting Facility
Marie Depaz	Environmental.Compliance Inspector, Hyperion Biosolids Management Group
Randy Womble	Farm Manager, Green Acres Farm
Carvella Woodard	Transportation Driver, Hyperion Treatment Plant
Diane Gilbert Jones	Environmental Engineer Associate IV, Regulatory Affairs Division
Chris Granados	Wastewater Treatment Operator II, Hyperion Treatment Plant
Robert Urrea	Wastewater Treatment Operator II, Hyperion Treatment Plant

Contractor

Steve Stockton	Responsible Biosolids Management
Louie Torres	Responsible Biosolids Management
James Stockton	Responsible Biosolids Management
Danny Rivera	Lutrel Trucking
Robert Fanucchi	Fanucchi Farming

Interested Party

Roddye Davis	Environmental Engineer Assoc II-Financial Management Division
Lauren Skinner	Public Affairs Specialist-Public Affairs Office

Observer

Elissa Jackson	Environmental Specialist, Regulatory Affairs Division
----------------	---

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**LIST OF DOCUMENTS & RECORDS REVIEWED**

LA City status of goals & objectives Balanced Scoreboard 2010-11  
BAT Management Review Meeting minutes (May and August 2010)  
BAT meeting summaries (8/26/10, 10/28/10, and 1/27/11)  
EMS Manual Document Control Page  
EMS Executive Summary  
EMS Plan  
EMS Element Summaries (various)  
Biosolids Factsheets (various)  
Biosolids EMS brochure  
Document Control Procedures  
Biosolids EMS Objectives 2010-11  
2010 Third Party Verification Audit Report  
Nonconformance Action Plan (Internal Audit 2010)  
Nonconformance Action Plan (2010 Interim Third Party Audit)  
Biosolids Program Policy/Goals (2004)  
Biosolids Program Performance Report 2010  
EMS Inquiry Tracking Log  
Bureau of Sanitation Website  
City of Los Angeles /Responsible Biosolids Management Agreement  
Corrective Action Forms (various)  
Griffith Park Site Information and Policies (11-2010)  
Internal audit checklist 2011  
Internal audit findings 5/27/10  
City Truck Route Griffith Park  
Objectives action plans (various)  
Operator Certificates of Competence (various)  
Biosolids Related Training Matrix  
Training Records (various)  
RBM Site Management Plan  
Farm Meeting Summaries (various)  
Biosolids Monthly Program Performance Report (Jan & Feb, 2011)  
HTP Spill response plan (Revised 1-2011)  
Standard Operating Procedures (SOPs) (various)

**Biosolids EMS Interim Audit Report**  
City of Los Angeles Bureau of Sanitation  
Audit Dates: April through June 2011

---

**LIST OF ABBREVIATIONS**

BAT	Biosolids Action Team
BEDRTS	Biosolids EMS Database Record Keeping Tracking System
EHS	Environmental Health Services
EMPAC	Enterprise Maintenance Planning and Control
EMS	Environmental Management System
HRDD	Human Resources Development Division
HTP	Hyperion Treatment Plant
NBP	National Biosolids Partnership
NOV	Notice of Violation
RBM	Responsible Biosolids Management
SMART	Specific, Measurable, Attainable, Realistic, Timely
SOPs	Standard Operating Procedures
STA	Seal of Testing Assurance
TIMS	Training Information Management System
TIRE	Terminal Island Renewable Energy Project
TIWRP	Terminal Island Water Reclamation Plant
WWTO	Wastewater Treatment Operator

**END OF REPORT**