

# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Executive Summary

**Prepared by:** Ernesto Libunao, EMS Coordinator  
**Reviewed By:** Christina Jones, Stephen Opot, Diane Jones  
**Approved By:** Timeyin Dafeta, HWRP Manager  
**Report Date:** September 23, 2016  
**Audit Dates:** June 6, 2016 to August 19, 2016  
**Audit Conducted By:** Christina Jones and Stephen Opot (City - Audit Team Members)

The City of Los Angeles Sanitation (LA Sanitation) requested through the National Biosolids Partnership (NBP) and approved by the independent Audit Firm, DEKRA, Inc. to conduct its own audit as a substitution for an external third party audit. LA Sanitation completed its Biosolids Management Program (BMP) Environmental Management System (EMS) audit from June 6, to August 19, 2016. A team of trained City staff conducted the Interim Audit and used their independent judgment to analyze LA Sanitation's current biosolids practices. The audit results were reported to the LA Sanitation management, the NBP, and the independent audit firm DEKRA.

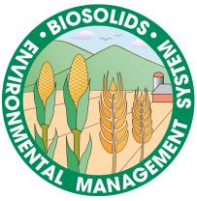
### Audit Details

Agency Name, Location: City of Los Angeles Sanitation, Los Angeles, California  
Biosolids Production Location(s): Hyperion Treatment Plant (hereafter referred to as HWRP)  
Terminal Island Water Reclamation Plant (TIWRP)  
Volume of Wastewater Treated: HWRP ~ 258 MGD  
TIWRP ~ 16MGD  
Tons of Biosolids Produced: HWRP ~ 677 wet tons per day (Class A biosolids)  
TIWRP ~ 31 wet tons per day (Class A biosolids)  
Biosolids Use Sites Audited: Griffith Park Composting Facility, Los Angeles, California  
Nursery Products, Helendale, California  
(Contractor: TerraRenewal)

### Audit Scope

The scope of the audit included parts of LA Sanitation's biosolids management program, which encompasses, biosolids loading, transportation and use and control of contractors. The following topics were covered, consistent with NBP requirements and the Scope of Work agreed to by LA Sanitation and DEKRA.

1. Verification of effective corrective action for nonconformances from previous audits.
2. Continual Biosolids Management System Dynamics Review, including:
  - o Significant changes affecting biosolids program
  - o BMP changes (including documentation)
  - o Effectiveness Reviews for Communications Program, Corrective & Preventive Action, Goals & Objectives, Management Reviews and Internal Audits
3. Process Audits
  - o Document Control & Recordkeeping
  - o Goals & Objectives
  - o Critical Control Points and Operational Controls
  - o Competency, awareness, and training
  - o Biosolids Operations
    - Biosolids Hauling and Transportation – HWRP
    - Biosolids Handling and Transportation - TIWRP
    - Maintenance –HWRP, TIWRP Griffith Park, Nursery Products



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- Process Engineering – HWRP
  - Biosolids Use / Disposition
    - Biosolids Use – Nursery Products and Griffith Park composting including Contractor Control
4. Examination of outcomes being achieved in the areas of regulatory compliance, interested party relations, environmental performance and quality practices.

## Purpose

- Verify that the management system being used by LA Sanitation in managing its biosolids activities meets NBP expectations and requirements.
  - Confirm that LA Sanitation is managing its biosolids program effectively, with practices and procedures being performed as documented.
  - Examine outcomes that LA Sanitation is achieving through the use of a systematic approach for continually improving its biosolids program.
- The audit scope covered LA Sanitation's BMP, including activities within the biosolids value chain, consistent with NBP requirements. Audit criteria were the requirements of the seventeen NBP BMP Elements and City's EMS requirements.

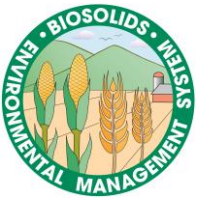
## Audit Methodology

The audit was conducted by City trained auditors following the guidelines in the NBP Auditor Guidance (August 2011). Auditors used checklist, observed practices in place, interviewed key persons and reviewed pertinent documents and records to assess the systematic performance of the process being audited and the consistency of biosolids management practices with written procedures. Interested parties were interviewed and transaction tests were performed to verify the effectiveness of the management system.

## Audit Findings and Conclusions

### Overall Program Performance

- No significant changes affecting the biosolids program were identified.
- The Policy is still applicable and effective in guiding LA Sanitation's BMP. LA Sanitation met its Biosolids Policy.
- The goals are still applicable to the BMP and are being met and tracked.
- Three of the four objectives set for fiscal year 15-16 were completed on time. The one not completed is under review by LA Sanitation Executive Management. The goals and objectives setting and tracking process used is effective.
- The NBP Code of Good Practice is being met and divisions are aware of their roles and responsibility in meeting the Code requirements.
- Critical control points have been established by LA Sanitation for the BMP to assure that biosolids activities meet legal, quality and public acceptance requirements and address potential environmental impacts.
- Operational controls are in place for the critical control points set by LA Sanitation and are being followed and updated as needed.
- LA Sanitation has a robust documentation and recordkeeping system BEDRTS. BEDRTS is updated and reviewed at least annually.
- The BMP planning process conducted in BAT meetings, which includes setting and tracking objectives, reviewing management options, and tracking corrective actions to address nonconformances is effective and allows for all divisions to be involved and informed.
- The Communication program used by LA Sanitation is effective and provides opportunities for interested party input.
- The internal audit process used to review the EMS is effective and helps continually improve the BMP.
- The BMP is functioning as intended and providing outcomes that help LA Sanitation maintain an environmentally sound, socially accepted, and cost-effective beneficial program.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Program Outcomes

- Interested Party Relations  
The public outreach and communication program including the Environmental Learning Center has increased awareness of LA Sanitation's Biosolids Management Program.
- Environmental Performance  
Use of LA Sanitation's biosolids for production of compost products is an environmental friendly option and accepted by the public as evident by citizen's requests for the compost produced at Griffith Park.
- Quality Practices  
LA Sanitation's control of its contractors has resulted in the production of quality compost products, helped meet public acceptance requirements, and maintained cost-effective management options.
- Regulatory Compliance  
The contractor's that manage LA Sanitation's biosolids through composting are performing well and meeting regulatory requirements.

## Strengths

- Staff expressed an understanding of their direct responsibilities for the principles of the code of good practice and critical control points. They also effectively described how SOP's, critical control points, and operational procedures are related.
- HWRP Truck Loading logs for daily shifts are thorough and effectively convey to the next shift any important, vital information.
- Contractor maintained good records for employee training and monitoring and measurements.
- The communication program allows for several opportunities for interested parties to be involved in the Biosolids Management Program and the outreach tools used, such as Environmental Learning Center and the Annual Performance Report are effective in keeping the public informed.
- Griffith Park maintains good housekeeping practices.
- Documents in BEDRTS and EMS manual were accessible, available, easily located, orderly, legible, and had been retained for specified time per requirements.
- The quarterly Biosolids Action Team meetings designate a time for important and critical biosolids related topics to be discussed and evaluated. The team dynamic is an efficient way to make decisions for the program.
- Records are maintained by ISCD in such a way that training history is clear and effectively communicated. This helps division ensure training compliance.
- Nursery Products Compost Facility maintains an excellent outreach program.

## Nonconformances

Three minor nonconformances were found during this audit and LA Sanitation will prepare a corrective action plan for each of the nonconformances.

- NBP BMP Element #8 required: Establish, document, and maintain, a training program that ensures all employees are aware of the biosolids policy, EMS requirements, legal, and other requirements and have skills to manage biosolids activities. Include contractor requirements. According to records and interviews it is evident that an employee was assigned to work within the biosolids handling area (truck loading facility) had not received the required Biosolids EMS Overview and Awareness Training.
- NBP BMP Element #12 requires the biosolids organization shall establish and maintain documentation, documents, and records for its BMP. The SOPs provided during the Griffith Park audit were either out of date or presented without following the approved document control procedures.
- NBP BMP Element #8 required the training program to address new or reassigned employees and that the organization shall maintain records of individual employee training delivered and completed. Griffith Park staff stated that they had completed required training but there is no record of training provided to new employees.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Nonconformances from Past External and Internal Audits

All nonconformances from previous audits have been addressed and verified. The internal nonconformance has been closed by the City. The external nonconformances will be closed by the third party auditor.

## Continual (Opportunities for) Improvements

- Failure of a pile to meet requirements could be more efficiently tracked in the daily logs at Griffith Park Composting Facility.
- On-site logs at Griffith Park Composting Facility could be kept for equipment repair requests and other maintenance related issues.
- Refresher training at Griffith Park Composting Facility could be provided on how to address a nonconformance.
- Regularly test links in the EMS manual documents. While updating software, or during website improvements (recent LASAN website improvement), some links may have been affected. For example, the link to the form "Correction Action Form" in the Responsible Table document under Element 12 is inactive.
- Division EMS Representatives could attend more of the audits to provide support and to gain experience and information for future audits.
- The meeting summaries could more clearly indicate that division managers unable to attend the Management Review meeting were represented by alternate designated staff.
- Representation from TIWRP at BAT meetings would be helpful to gain up-to-date information concerning changes/improvements of the EMS program.
- Regular review of biosolids EMS overview training could be conducted at Nursery Product as a refresher for key definitions such as critical control points (CCP) and operational controls. (Note: CCP and program refresher training was provided after the audit by City staff).
- LA Sanitation could provide more information on the compost products produced and the availability.
- LA Sanitation could do more to showcase the accomplishments of the biosolids management program.

## Conclusion

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

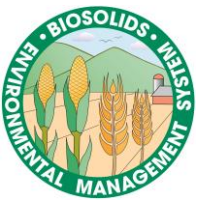
- LA Sanitation's biosolids activities are consistent with NBP expectations and meets requirements of the NBP BMP Elements, except where noted above.
- Management system approach used by LA Sanitation is generating positive outcomes for LA Sanitation's biosolids program in the areas of regulatory compliance, environmental performance, quality practices and relations with interested parties.

The audit team recommends continued certification of LA Sanitation's BMP within the NBP's BMP.

## Documents Referenced and Reviewed

The following documents were used during the audit:

- National Biosolids Partnership Documents:
  - NBP Elements of a Biosolids Management Program
  - NBP Guidance for Biosolids EMS Interim Audits
- City of Los Angeles Documents:
  - 2011 Sludge Spill Response Procedure
  - 2015 Interim audit nonconformance corrective action plan
  - Annual Performance Report (2014, 2015)
  - BAT Meeting Summary (March, September, November 2015, March, July 2016)
  - BEDRTS



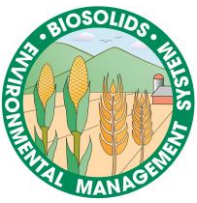
# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- Bioedge Report
- Biofilter data from semi-annual monitoring
- Biosolids Management Program Environmental Management System Brochure
- Biosolids Management Program Critical Control Point Factsheets
- Emergency Response Plan
- EMS Manual
- Fecal Coliform Analysis 2016
- Balanced Score Board (fiscal year 2014-2015)
- Griffith Park Compost Facility Dailies
- Human Resources Development Division tailgate attendance roster for biosolids EMS employee awareness tailgate (8/24/2014)
- Industrial Safety & Compliance Division Training Information Management System Report (BOS Course Completion Report) for course BIO-059
- LA Sanitation Employee Training Records (Stephen Ortega, Carvellia Woodard, Angela Menendez, Benjamin Fraser)
- LASAN Internet Biosolids Page
- LEA Inspection (May 2016) Composting Materials Handling Operation and Facility Inspection Report
- List of load tickets
- Memo with attachments regarding annual biosolids EMS awareness tailgate training
- Monthly Report – Griffith Park Composting Facility – SWRP No. 19-AA-0855 (February, March, April, May)
- Nursery Products Emergency Response Plan/Business Emergency Plans (BERP)
- Nursery Products New Employees Training Log
- Nursery Products Odor Complaint Log
- Nursery Products Special Occurrence Log
- Nursery Products Standard Operation and Procedures
- Odor Complaint Log-book
- SOP: Consolidated Report of Compost Site Information and Biosolids Program Participation Policies (2013)
- SOP: Emergency and Fire (2013)
- SOP: STA Sampling/Testing/Distribution Protocol (2013)
- Tailgate log for spill response training
- Tailgate Roster BIO-005
- TIWRP Biosolids Spill Response SOP
- TIWRP Site Information and Biosolids Program Participation Policies

## Persons Interviewed

- **Management:** Chuck Turhollow, Hi Sang Kim, Mark Starr, John Hamilton, Emmanuel Alloh
- **EMS Representatives:** Michael Mathews, Ron Bell, Ernesto Libunao, Constantino Pano
- **Support Staff:** Stephen Ortega, Ben Fraser, Angela Mendez, Jeff Anderson, Ricardo Rodriguez, John Brosius, John Salas, William Andrews, Caravella Woodard, Ray Cruz, Andrew Howard, Mike Mathews
- **Biosolids Contractors:** Chris Seney (TerraRewal), Chris Marks(Nursery Products)
- **Interested Parties:** Cindy Vellucci (Orange County Sanitation District), Lauren Fondahl (EPA Region IX Biosolids Coordinator), John Pastore (Executive Director, Southern California Association of Publicly Owned Treatment Works (SCAP), Denny Schneider (OneWaterLA Stakeholder, Westchester Neighborhood Association), Dr. Tom Williams (Citizens Coalition for Safe Community, Sierra Club Water Committee)



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Management System Dynamics including Management Review

**Scope/Audit Area:** Management System Dynamics including Management Review (Hyperion, Terminal Island, Solids Resources Processing and Construction, and Industrial Safety and Compliance Divisions)

Significant changes affecting Biosolids Environmental Management System (EMS), Biosolids Management Program (BMP) changes, Biosolids Policy, Effectiveness Review (Communications Program, Corrective & Preventative Action, Goals & Objectives, Management Reviews), and Internal Audit Effectiveness.

**Report Date:** July 12, 2016

**Audit Dates:** June 6, 2016 to August 3, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To review and evaluate if the City's management system dynamics is effective and allows for continual improvements

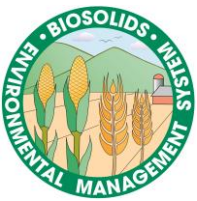
### Methodology

Audit checklist, interview of division managers and key staff, review of documents and records

### Audit Findings

The Audit Team used a checklist addressing the following areas: policy, goals and objectives, communication program, corrective action process, internal audit process and overall program performance for the biosolids management program. See results below:

- No significant changes to the program have occurred.
- To assist the City in meeting its biosolids' policy and goals including the Code of Good Practice, management noted that it helps to fulfill commitment to produce biosolids following applicable regulations.
- Staff interviewed demonstrated knowledge on their roles and responsibilities related to the code of good practice.
- Management regularly attends Biosolids Action Team (BAT) meeting to assist in setting program objectives, addressing issues, and providing updates.
- Management is provided with regular updates on biosolids related activities from the EMS coordinator and the alerts from RAD.
- Management feels that the current review process is effective and provides an opportunity for addressing issues and implementing improvements for BMP at HWRP and TIWRP.
- Management feels that the current biosolids policy statement is still the overall guidance for the City's program.
- The policy and program goals were met.
- The EMS program is functioning well and helping the City meet its policy, goals, objectives and outcomes.
- Based on internal audit results, management review, interview of staff and interested parties, the BMP overall performance is very good.
- Three of the four objectives set for fiscal year 15-16 were completed on time. The one not completed is under review by LA Sanitation Executive Management. The objective setting process is functioning well and the balanced scoreboard tracking system is maintained.
- The goals and objectives setting and tracking process is working well and allows for continual improvements to the BMP.
- Two objectives set for future year completion are being tracked and are on-schedule.
- An improved understanding of critical control points and the code of good practice was observed.
- Staff interviewed expressed the importance and need for the Biosolids EMS to function.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- Meeting summaries do not clearly indicate that absent division managers sent a representative to the Management Review Meeting.
- Although attendance by management is required at BAT Management Review Meetings, not all of the required personnel names were recorded on the attendance list.
- The materials made available to the public through the outreach and communication program were found to be useful and effective. The communications program is effective in providing information to the public and receiving feedback.
- The Environmental Learning Center has brought an increased awareness to biosolids and how it is produced and managed.
- Internal audits are conducted annually. The audit focuses on meeting the policy, goals, objectives, program performance, outcomes, and the effectiveness of the communication program. All divisions participate in the internal audits. The internal audit process is effective and provides useful information to management regarding program performance.
- Corrective actions plans to address nonconformances are prepared by the assigned divisions and progress tracked in BAT. Once actions are implemented, the EMS coordinator reviews the effectiveness of the actions during internal and/or interim audits. The corrective action process used to address nonconformances is effective and has helped continually improve the BMP.

## Strengths

The quarterly Biosolids Action Team meetings designate a time for important and critical biosolids related topics to be discussed and evaluated. The team dynamic is an efficient way to make decisions for the program.

## Nonconformances

None identified.

## Opportunities for Improvement

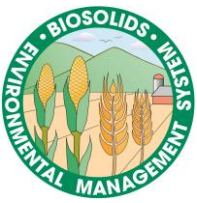
- Division EMS Representatives could attend more of the audits to provide support and to gain experience and information for future audits.
- The meeting summaries could more clearly indicate that division managers unable to attend the Management Review meeting were represented by alternate designated staff.

## Persons Interviewed

- Mark Starr (Sanitation Wastewater Manager) TIWRP
- John Hamilton (Environmental Engineer) SRPCD
- Hi Sang Kim (Sanitation Wastewater Manager) HWRP
- Chuck Turhollow (Sanitation Wastewater Manager) ISCD
- Emmanuel Alloh (Senior Environmental Engineer) HWRP

## Documentation Reviewed

- Biosolids Management Program Environmental Management System Brochure
- March 2015 BAT Meeting Summary
- September 2015 BAT Meeting Summary
- November 2015 BAT Meeting Summary
- March 2016 BAT Meeting Summary
- July 2016 BAT Meeting Summary



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Documentation and Recordkeeping

**Audit Area/Scope:** Documentation and Records

**Report Date:** August 12, 2016

**Audit Dates:** June 6 to July 29, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To conduct an audit on the documentation system in Biosolids EMS Document and Record Keeping Tracking System (BEDRTS) and Environmental Management System (EMS) Manual.

### Methodology

Audit checklist and review of BEDRTS and EMS Manual

### Audit Findings

Documents and records in the BEDRTS were reviewed and the following was found:

- Based on evidence, document development and control procedures were correctly followed
- Documents in BEDRTS and EMS manual were accessible, available, easily located, orderly, legible, and had been retained for specified time per requirements.
- Documents were found to have been properly maintained, controlled, and reviewed as required. Contract documents have also been reviewed and updated by the responsible party.
- Documents control page of the EMS manual have been updated based on new procedures.
- A total of 5 changes were made to the EMS manual and are up-to-date. All changes include the date, approved description of the change, who made the change, and who approved the change.
- Links in the EMS manual are functional. However, the link "click here to access BEDRTS" on B-EMS overview manual, page 17, is not functional.
- Element 12 in the documents that require control – was sampled and reviewed. Specifically, the document "Inquiry Tracking Log" with a total of 289 inquiries is up-to-date. All updates are per the requirements.

### Strengths

Documents in in BEDRTS and EMS manual were accessible, available, easily located, orderly, legible, and had been retained for specified time per requirements.

### Nonconformance

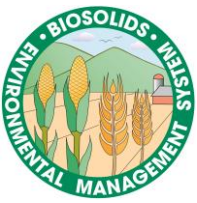
None identified.

### Opportunities for Improvement

Regularly test links in the documents. While updating software, or during website improvements (recent LASAN website improvement), some links may have been affected. For example, the link to the form "Correction Action Form" in the Responsible Table document under Element 12 is inactive.

### Documentation Reviewed:

- BEDRTS
- EMS Manual
- Biosolids EMS Website
- NBP BMP documents



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Verification of Open Nonconformances

**Audit Area/Scope:** Verification of Open Nonconformance

**Report Date:** August 29, 2016

**Audit Dates:** June 6, 2016 to August 19, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To review and verify the effectiveness of the corrective action implemented of open nonconformance from the 2015 interim and internal audit.

Note: "E" after nonconformance represents item identified during external third party audit. "I" after nonconformance represents item identified during internal interim audit by City.

- **NC# 15-01E:** NBP BMP Element #5 requires the organization to establish measurable biosolids program objectives for continually improving BMP performance. Biosolids objectives for FY 2014/2015 (e.g. "prepare document", "review contracts", "support TIRE project", "consolidate housekeeping") are not sufficiently measurable to demonstrate continual improvement.
- **NC# 15-02E:** NBP BMP Element #8 requires the organization to establish training to provide general awareness of the BMP and how each employee's assigned roles and responsibilities relate to the biosolids value chain. Discussions with some Hyperion Operations personnel and some contractors (RBM, Terra Renewal) demonstrated a lack of clear understanding of the concepts of critical control points and operational controls and those that have been identified. Awareness in these important BMP concepts is lacking.
- **NC# 15-03E:** NBP BMP Element #10 requires the organization to develop and implement standard operating procedures, work management practices, or other appropriate methods (operational controls) at all critical control points to manage potential environmental impacts effectively. "Potential environmental impacts" noted in Element 3 "Critical Control Chart" do not represent some environmental risks that Operations personnel recognize exist (e.g. energy consumption, greenhouse gas emission).
- **NC# 15-04E:** NBP BMP Element #15 requires the organization to prepare a written BMP performance report (at least annually) that includes a summary of progress toward achieving its biosolids program goals and objectives. The Biosolids Performance Summary for 2014 does not describe progress in achieving objectives for FY2013/14.
- **NC#15-01I:** NBP BMP Element #10 requires the biosolids organization to develop standard operating procedures, or other methods, to manage potential environmental impacts. In the SOP Truck Loading Facility Procedures, #SDW – 002, under procedure # 5; it was observed that tarps were removed outside the facility and the SOP's states tarp should be removed once truck is inside the loading bay to mitigate odors.

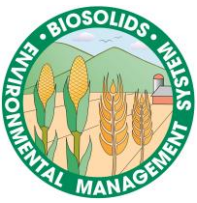
### Methodology

Audit Checklist and review of documents and records.

### Audit Findings

The audit team was provided a list of four nonconformances identified in the 2015 interim and 1 nonconformance from the internal audit. Verification of corrected nonconformances was determined based upon interviews and review of documents and records related to the nonconformances. Open nonconformances from 2015 audit have been addressed and action implemented was found to be effective in addressing the issue. *(These nonconformances cannot be verified and closed until next third party audit is conducted)*

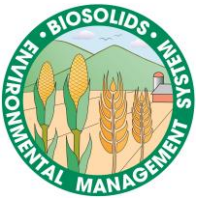
The actions taken to address the nonconformances are as follows:



## City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- NC# 15-01E: Insufficient measurable Biosolids objectives to demonstrate continual improvement
  - 2015-2016 fiscal year objectives were evaluated and updated based on SMART criteria.
  - A review process was developed via a checklist to evaluate if objectives would meet SMART criteria.
  - Trainings were provided in BAT meetings and forwarded to Division EMS representatives as a way to provide refresher training on the changes to objective setting process.
  - Training effectiveness was evaluated when fiscal year 2016-2017 objectives were set. (2016-2017 Objectives met the SMART criteria).
  - This NC has been addressed and reviewed by the City and will be verified and closed by the third party auditor.
- NC# 15-02E: Inadequate understanding of the concepts of critical control points and operational controls
  - Survey and interviews were conducted on 1/5/2106 to evaluate current understanding of CCPs and operational controls. Based on the results an evaluation of definition of CCPS was assessed. It was determined that the definition did not need to be changed but better awareness and refresher training provided.
  - Refresher training on CCPs and operational controls, focusing on understanding, awareness, and importance to Biosolids program was developed and provided to all divisions responsible for biosolids activities within the BMP. Training rosters were sent to ISCD.
  - During the internal audit targeted questions regarding CCPs and operational controls were asked of operations staff, engineering staff, and contractors. Responses received demonstrated a better understand of CCPs and operational controls.
  - This NC has been addressed and reviewed by the City and will be verified and closed by the third party auditor.
- NC# 15-03E: Due to insufficient recordkeeping and documentation the Critical Control Point Chart did not represent some environmental risks that Operations personnel recognize exist
  - Existing CCPs chart and information based on findings from audit was reviewed.
  - The EMS taskforce met to determine if the CCPs needed to be updated. Members of the taskforce determined that CCPs were current and that clarification was needed on the potential environmental impacts related to Energy consumption and air pollution.
  - The BMP addressed greenhouse gases as part of the air pollution potential impact and Energy Consumption was addressed Bureau-wide and not only for the BMP.
  - The CCP chart was updated to include potential impacts Energy consumption (exclusion summary) and air pollution to include greenhouse gases.
  - The EMS manual glossary terms was updated to include air, land, and water pollution and greenhouse gases.
  - The EMS manual Element 3 exclusion summary was updated to include Energy Consumption.
  - Training was provided at the BAT meeting to highlight the changes.
  - This NC has been addressed and reviewed by the City and will be verified and closed by the third party auditor.
- NC# 15-04E: Due to insufficient recordkeeping and documentation the Biosolids Performance Summary for 2014 did not describe progress in achieving objectives for FY2013/14
  - A review of the existing performance report was conducted and it was determined that this was an oversight in not including the update on past objectives.
  - The report was reviewed and location where the information on progress for achieving objectives was determined.
  - An update was made to the template for the performance report to ensure that the information would be included in future cycles.
  - The draft annual performance report was prepared and updated to include progress of achieving objectives.



## City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- The published performance report completed in June 2016 included status of achieving objectives
- This NC has been addressed and reviewed by the City and will be verified and closed by the third party auditor.
- NC# 15-011 NBP BMP Element #10 requires the biosolids organization to develop standard operating procedures, or other methods, to manage potential environmental impacts. In the SOP Truck Loading Facility Procedures, #SDW – 002, under procedure # 5; it was observed that tarps were removed outside the facility and the SOP's states tarp should be removed once truck is inside the loading bay to mitigate odors.
  - SOP was reviewed and refresher training was provided to operations staff
  - The solids section was reminded of the importance of closing the doors and tarping the trucks.
  - Auditors observed this practice being instituted during the interim audit in June 2016 and also confirmed the SOP with the operators.
  - This NC has been addressed, reviewed, and closed by the City

### Documentation Reviewed

- 2015 Biosolids Performance Report
- 2015-Nonconformance Corrective Action Plan
- Corrective Action Forms
- NBP Code of Good Practice Requirements
- Various Standard Operating Procedures
- Training documents developed to address a nonconformance



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Biosolids Planning and Operations

**Scope/Audit Area:** Hyperion Water Reclamation Plant (HWRP)

Documentation and recordkeeping, critical control points and operational controls, biosolids operations: transportation, maintenance, process engineering.

**Report Date:** July 12, 2016

**Audit Dates:** June 8, 2016

**Audit Conducted By:** Christina Jones and Stephen Opat

### Purpose

To review and evaluate if the City's Biosolids Operations are effectively meeting the City's Biosolids Policy, adhering to the National Biosolids Partnership (NBP) Code of Good Practice, and Environmental Management System (EMS) program requirements.

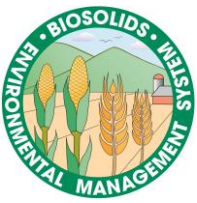
### Methodology

Audit checklist, interview of key operation's supervisors and operators, observation of biosolids operations (truck loading facility, including transportation), review of documents and records.

### Audit Findings

The Audit Team used a checklist addressing the following areas: critical control points, operational controls, emergency response, employee training, standard operating procedures (SOPs), preventive maintenance, process engineering, and NBP code of good practice. The Audit Team observed the treatment plant during normal day operations. See results below:

- The HWRP solids production, handling, and transportation processes are being operated as a Critical Control Point (CCP) within the City's Biosolids Management Program (BMP).
- No significant changes affecting the biosolids preparation, handling, and transportation CCPs were identified.
- The use of standard operating procedures, including controlling and reviewing them is an essential part of the BMP. Plant operators were observed accessing SOPs through the Plant Intranet link.
- Operational controls are effective in managing and operating the CCPs within the program.
- Biosolids Operations (Preparation, Handling, Operating Procedures, Process Control) are producing Exceptional Quality biosolids that meet or exceed the requirements in 40 CFR Part 30.
- The current preventative maintenance program is effective in the replacement of critical equipment.
- Biosolids hauling and transportation operational controls and monitoring requirements are in place and address regulatory requirements and environmental impacts.
- Documents are updated, regularly reviewed, and emergency response plans are routinely tested through drills conducted annually.
- The HWRP biosolids critical control points and process areas has received no noncompliances or notice of violations.
- Staff assigned to the HWRP operations is knowledgeable of their roles and responsibilities as they relate to the BMP.
- The operational controls used for transportation and hauling at HWRP are effective in helping the City meets the outcomes: improved relations with interested parties, use of best management practices, and compliance with regulations.
- The Bureau-wide Program Review Committee (PRC) process is used for planning, engineering and constructing new projects. The PRC is used to identify appropriate projects for the biosolids management program. When new projects are planned for the biosolids program, the planning, engineering, and construction is tracked by the assigned division and updates provided in BAT. The process engineering system is effective.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- Training offered by the City to new employees effectively provides information on biosolids production and the importance of following SOP's.
- Upon request training records for staff at the truck loading facility were provided and it was found that not all new employees were provided with the Biosolids Overview Training.

## Strengths

- Staff expressed an understanding of their direct responsibilities for the principles of the code of good practice and critical control points. They also effectively described how SOP's, critical control points, and operational control points are related.
- HWRP Truck Loading logs for daily shifts are thorough and effectively convey to the next shift any important, vital information.

## Nonconformances

NBP BMP Element #8 required: Establish, document, and maintain, a training program that ensures all employees are aware of the biosolids policy, EMS requirements, legal, and other requirements and have skills to manage biosolids activities. Include contractor requirements. According to records and interviews it is evident that an employee was assigned to work within the biosolids handling area (truck loading facility) had not receiving the required Biosolids EMS Overview and Awareness Training.

## Opportunities for Improvement

None identified.

## Persons Interviewed

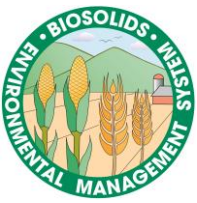
- Emmanuel Alloh (Environmental Engineer)
- Stephen Ortega (Environmental Compliance Inspector)
- Hi Sang Kim (Sanitation Wastewater Manager)
- Ben Fraser (Plant Equipment Trainee)
- Angela Mendez (Wastewater Treatment Operator)

## Observers

- Denny Schneider, OneWaterLA Stakeholder, Westchester Neighborhood Association
- Dr. Tom Williams, Citizens Coalition for Safe Community, Sierra Club Water Committee
- Diane Jones, Environmental Engineering Associate IV

## Documentation Reviewed

- Biosolids Management Program Environmental Management System Brochure
- Tailgate log for spill response training
- Bioedge Report
- List of load tickets
- Biosolids Action Team Meeting Summary from March 31, 2016
- Tailgate attendance roster for biosolids EMS employee awareness tailgate (8/24/2014)
- Memo with attachments regarding annual biosolids EMS awareness tailgate training
- 2015 Interim audit nonconformance corrective action plan
- Fiscal year 2014-2015 balanced score board



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Management Systems Dynamics, Biosolids Planning and Operations

**Scope/Audit Area:** Terminal Island Water Reclamation Plant (TIWRP)

Management Systems Dynamics (policy, goals, objectives, and audit effectiveness), Documentation and Recordkeeping, Critical Control Points and Operational Controls, and Biosolids Operations: Preparation and handling, monitoring and measurements, emergency response, communication, preventive maintenance, housekeeping, corrective action process (nonconformance) and process engineering.

**Report Date:** August 12, 2016

**Audit Dates:** June 06, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To conduct a process audit of TIWRP Biosolids operations (critical control points) to determine if the City's Environmental Management Systems (EMS), National Biosolids Partnership (NBP) Code of Good Practice, and NBP Biosolids Management Program (BMP) requirements are being met.

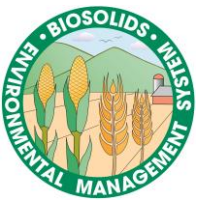
### Methodology

Audit Checklist, review of documents and records, and interview of key TIWRP personnel.

### Audit Findings

The audit team used a checklist that included; operational controls, emergency response, employee training, Standard Operations Procedures (SOPs), preventative maintenance, odor control, NBP code of good practice, and management review dynamics. See results below:

- TIWRP management is aware of their roles and responsibilities in helping the City meet its policy, program goals, and outcomes.
- TIWRP staff is familiar with the NBP Code of Good Practice, Critical Control Points (CCPs) and their importance to the City's BMP.
- TIWRP is effectively addressing its biosolids CCPs to assist the City in meeting its biosolids policy and program outcomes: improved environmental performance, improved relations with interested parties, use of best management practices, and compliance with regulations.
- TIWRP is effectively managing its CCPs to ensure the biosolids meet legal, quality, and public acceptance requirements.
- TIWRP has operational procedures in place and are followed to address any potential environmental impacts.
- The Bureau-wide Program Review Committee (PRC) process is used for planning, engineering and constructing new projects. The PRC is used to identify appropriate projects for the biosolids management program. When new projects are planned for the biosolids program, the planning, engineering, and construction is tracked by the assigned division and updates provided in BAT. The process engineering system is effective.
- TIWRP has emergency response plans that are updated regularly and are routinely tested through drills conducted annually. The emergency response drills are conducted simultaneously with the bureaus' response drills. Specific biosolids response drills are conducted every six months.
- TIWRP has a spill response plan to mitigate spills during loading and hauling of biosolids.
- In accordance with EMS policy, TIWRP keeps its training documents in TIMS. Regular refresher trainings are provided to biosolids operators and new employees are trained following the EMS guidelines.
- TIWRP has an effective preventative maintenance program. Maintenance of equipment is documented electronically in the EMPAC system, which helps schedule maintenance activities in timely manner.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- Monitoring and measurements are conducted by EMD following required SOPs. Records are kept in LIMS. Procedures are established and followed when a problem occurs with a sampling event. Documentation and records are maintained of the event.
- No odor complaints have been received by the plant.
- TIWRP regularly follows its housekeeping procedures to ensure clean work areas. Good housekeeping is also maintained during truck loading periods.

## Strengths

TIWRP staff maintains good recordkeeping.

## Nonconformances

None identified

## Opportunities for Improvement

Representation from TIWRP at BAT meetings would be helpful to gain up-to-date information concerning changes/improvements to the EMS program.

## Persons Interviewed

- Mark Starr (Sanitation Wastewater Manager)
- Dave Gumaer (Shift Superintendent Wastewater Treatment)
- Andrew Howard (Wastewater Treatment Operator)

## Observers

- Denny Schneider, One Water LA Stakeholder, Westchester Neighborhood Association
- Dr. Tom Williams, Citizens Coalition for Safe Community, Sierra Club Water Committee
- Diane Jones Environmental Engineering Associate IV
- Cindy Vellucci, Senior Environmental Specialist, Orange County Sanitation District

## Documentation Reviewed

- New employees training record
- TIWRP Site Information and Biosolids Program Participation Policies
- Emergency Response Plan
- TIWRP Biosolids Spill Response SOP
- Odor Complaint Log-book



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Competency, Awareness, and Training

**Scope/Audit Area:** Industrial Safety and Compliance Division (ISCD)  
Documentation and record keeping, competency, awareness, and training

**Report Date:** July 12, 2016

**Audit Dates:** June 8, 2016

**Audit Conducted By:** Christina Jones and Stephen Opat

### Purpose

To review and evaluate if the City's Biosolids Operations are effectively meeting the City's Biosolids Management Program Environmental Management System (EMS) requirements, adhering to the National Biosolids Partnership (NBP) Code of Good Practice and Biosolids Management Program requirements.

### Methodology

Audit checklist, interview of staff, review of documents and records

### Audit Findings

The Audit Team created a checklist containing questions and issues related to Biosolids. The checklist addressed the following areas: biosolids policy, documentation and record keeping, competency, awareness and training. As part of this audit, the interviewee forwarded documentation related to biosolids to demonstrate records of training. See results below:

- Training documentation and record keeping is effectively managed and maintained by ISCD.
- The training provided by ISCD to new/reassigned employees effectively conveys the principles and purpose of maintaining a biosolids EMS.
- The training provided to operations staff assesses the competency of the operators in performing their job responsibilities for the solids process areas.
- Employees were found to be competent in performing their job duties and tasks.
- Refresher training is periodically provided as necessary.
- Training program for solids processing areas are available on-line.
- Any changes to SOPs are incorporated into the training program as necessary.
- As a result of the training new employees at the truck loading facility demonstrated a basic understanding of the purpose for having a biosolids EMS and how they affect the biosolids program.
- The training, awareness, and competency program used to train employees are effective. The training recordkeeping system, TIMS used by City to track employee training and competency is effective and up to date.

### Strengths

Records are maintained by ISCD in such a way that training history is clear and effectively communicated. This helps division ensure training compliance.

### Nonconformances

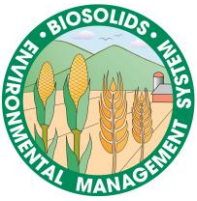
None

### Opportunities for Improvement

None

### Persons Interviewed

- Chuck Turhollow (Sanitation Wastewater Manager)
- Mike Mathews (Senior Wastewater Treatment Operator)



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report

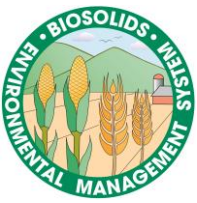


## Observers

- Denny Schneider, One Water LA Stakeholder, Westchester Neighborhood Association
- Dr. Tom Williams, Citizens Coalition for Safe Community, Sierra Club Water Committee
- Diane Jones Environmental Engineering Associate IV

## Documentation Reviewed:

- LA Sanitation Employee Training Records
  - Stephen Ortega
  - Carvella Woodard
  - Angela Menendez
  - Benjamin Fraser
- Industrial Safety & Compliance Division Training Information Management System Report (BOS Course Completion Report) for course BIO-059



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Biosolids Use Options (Griffith Park Composting Facility)

### Scope/Audit Area: Solid Resources Processing and Construction Division (SRPCD)

Documentation and recordkeeping, competency awareness and training, critical control points and operational controls, biosolids operations: transportation, maintenance,

**Report Date:** July 12, 2016

**Audit Dates:** June 21, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To review and evaluate if the City's Biosolids Operations are effectively meeting the City's Biosolids Policy and EMS requirements, adhering to the National Biosolids Partnership (NBP) Code of Good Practice, and Environmental Management System (EMS) program requirements.

### Methodology

Audit checklist, interview of key staff, observation of biosolids operations, review of documents and records.

### Audit Findings

The Audit Team created a checklist containing questions and issues related to Biosolids. The checklist addressed the following areas: biosolids policy, documentation and record keeping, competency, awareness and training. As part of this audit, the interviewee forwarded documentation related to biosolids to demonstrate records of training. See results below:

- Temperature and age of compost piles are effectively tracked using the daily log sheets which are kept onsite.
- Daily log is relied upon by staff to track every aspect of operation at facility leading to difficulty tracking less frequent occurrences like complaints and maintenance issues.
- Log of equipment maintenance is not kept beyond placing a tag on the equipment.
- There is a preventive maintenance plan but the schedule for it is managed by another division.
- New employees were provided with Biosolids related Trainings and roster provided as documentation was not sent to ISCD in a timely manner causing training records to be out of date.
- No nonconformances, noncompliances, or notice of violations have been received by facility.
- Some staff was not familiar with the procedures and documentation required to address nonconformances.
- Any issues with a pile (i.e. resampling needed) is not clearly reported in daily logs.
- There is a breakdown in communication among the group on how/when to update SOPs.
- SOPs provided onsite did not include the required control page.
- Truck driver demonstrated efficient knowledge and practice of safety procedures and chain of command for transporting the biosolids.
- The senior staff that was interviewed appeared to be knowledgeable of their roles and responsibilities related to the facility operations and the EMS program.
- The facility was well-maintained and clean and has received no complaints or notice of violations.
- The daily logs viewed showed that a pile did not meet quality standards and status of pile was tracked on the next daily log after that initial log but no further information was tracked for the exceedance.

### Strengths

Griffith Park Composting Facility maintains good housekeeping practices.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Nonconformances

- NBP BMP Element #12 requires the biosolids organization shall establish and maintain documentation, documents, and records for its BMP. The SOPs provided during the Griffith Park audit were either out of date or presented without following the approved document control procedures.
- NBP BMP Element #8 required the training program to address new or reassigned employees and that the organization shall maintain records of individual employee training delivered and completed. Griffith Park staff stated that they had completed required training but there is no record of training provided to new employees.

## Opportunities for Improvement

- Failure of a pile to meet requirements could be more efficiently tracked in the daily logs at Griffith Park Composting Facility.
- On-site logs at Griffith Park Composting Facility could be kept for equipment repair requests and other maintenance related issues.
- Refresher training for staff at the Griffith Park Composting Facility could be provided on the nonconformance corrective action process.

## Persons Interviewed

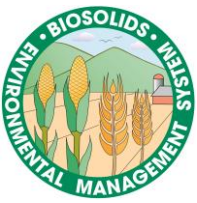
- Ray Cruz (Solids Resources Manager)
- Jeff Anderson (Equipment Operator)
- Constantino Pano (Environmental Engineering Associate)
- Ricardo Rodriguez (Maintenance Laborer)
- John Brosius (Equipment Supervisor)
- John Salas (Environmental Compliance Inspector)
- William Andrews (Environmental Compliance Inspector)
- Carvella Woodard (Heavy Duty Truck Operator)
- John Hamilton (Environmental Engineer)

## Observers

- Denny Schneider, One Water LA Stakeholder, Westchester Neighborhood Association
- Dr. Tom Williams, Citizens Coalition for Safe Community, Sierra Club Water Committee
- Diane Jones Environmental Engineering Associate IV

## Documentation Reviewed

- 2011 Sludge Spill Response Procedure
- Griffith Park Compost Facility Dailies
- Fecal Coliform Analysis 2016
- SOP: Consolidated Report of Compost Site Information and Biosolids Program Participation Policies (2013)
- SOP: STA Sampling/Testing/Distribution Protocol (2013)
- SOP: Emergency and Fire (2013)
- Tailgate Roster BIO-005
- LEA Inspection (5/2016) Composting Materials Handling Operation and Facility Report
- February Monthly Report – Griffith Park Composting Facility – SWRP No. 19-AA-0855 (February, March, April, May)
- Biofilter data from semi Annual monitoring



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Biosolids Use Option (Nursery Product Composting Facility)

**Audit Area/Scope:** Nursery Product Composting Facility

Operational control, maintenance, emergency response, management review (policy, goals and objectives), documentation and recordkeeping, preventative maintenance, housekeeping, competence, awareness, and training

**Report Date:** August 12, 2016

**Audit Dates:** August 03, 2016

**Audit Conducted By:** Christina Jones and Stephen Opot

### Purpose

To conduct a site audit of the Nursery Product Composting Facility (contractor control) to determine if the City's Environmental Management System (EMS) requirements are being met and if the operations are meeting intended program outcomes.

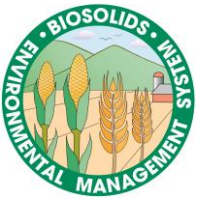
### Methodology

Audit Checklist, review of documents and records, and interview of key personnel – Main contractor's TerraRenewal and sub-contractor's Nursery Products Services.

### Audit Findings

The audit team used a checklist focusing on: operational controls, emergency response, employee training, Standard Operations Procedures (SOPs), preventative maintenance, odor control, and management review dynamics. See results below:

- Nursery Products Services (hereafter referred to as 'Nursery Products') is contracted by TerraRenewal that has a direct relationship with the City of Los Angeles. In turn, TerraRenewal is guided by the City's biosolids EMS procedures and therefore ensures that biosolids use and management requirements are met. TerraRenewal keeps direct contact with Nursery Products.
- Trainings are conducted per City's EMS guidelines. It was reported that safety trainings are conducted monthly and proper site procedures training are provided to truck drivers annually. In reviewing the employees training log, employees are trained on biosolids spill response plans and injury prevention.
- The facility has monitoring and measurement records for composting activities. Items monitored include temperature, percent solids, pathogens, metals, and vectors. These parameters are routinely monitored and documented per City's EMS requirements.
- Biosolids related regulatory compliance issues are monitored and tracked via organizations such as the Association of Compost Products. Information is also disseminated through regular unannounced inspection by local and state regulatory agencies. No regulatory noncompliance.
- The facility has a plan to address odor complaints. Complaints, if any, are recorded in the special occurrence books and logged into the online odor complaint log that is transmitted to Cal Recycle complaint website under the odor impact minimization program.
- They have a robust emergency response plan that was reviewed by the auditors on-site. In addition, concise descriptions of fire response plan as required by San Bernardino Fire Department and Site-specific safety plan were viewed.
- The facility has not responded to or addressed any spills or emergencies as confirmed by their special occurrence log.
- Nursery Products has been identified as a critical control point for the City's biosolids management program. The facility has Standard Operations and Procedures (SOPs). The SOPs are updated or reviewed annually. The SOPs are made available to employees via training and a copy is made available in the facility's office for quick reference.



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- The facility has a robust preventive maintenance program used to track equipment in the facility and is daily updated in the maintenance-log. Housekeeping is also maintained by constantly cleaning the facility and picking litters.
- Biosolids are tracked via a computerized manifest data system maintained by TerraRenewal. Trucks are scaled in and out when they arrive and leave the facility. Also, delivery schedules are done by TerraRenewal. The facility's operations are not impacted when biosolids delivery is not as scheduled.
- The Compost materials are released for distribution and operational parameters are monitored before release. The facility releases approximately 500 tons of compost products per day. The compost material is mostly used in agricultural applications especially in alfalfa grass fields.
- The City's public outreach material has been provided to TerraRenewal but is not used because Nursery Products has a robust outreach program that include invitation of the High Desert Air Board, school outreach programs, and free recyclable products to the community.
- Nursery Products was provided with a nonconformance report and internal audit finding report from the City, but since it had no nonconformance directly related to its operations, the facility wasn't obliged to address any identified nonconformance during the last audits.
- Nursery Products' management is aware of the City's biosolids policy and is responsible to review biosolids management plans to assist the City with meeting its biosolids policy and goals.
- The contractor feels that the current audit review process is effective and provides an opportunity for addressing issues and implementing improvements for BMPs at Nursery Products.

## Strengths

- Nursery Products maintains an excellent outreach program.
- Nursery Products maintains an extensive regulatory tracking program to ensure regulatory compliance.

## Nonconformance

None identified

## Opportunities for Improvement

Regular review of biosolids EMS overview training could be conducted at Nursery Product as a refresher for key definitions such as critical control points (CCP) and operational controls. (Note: CCP and program refresher training was provided after the audit by City staff)

## Persons Interviewed

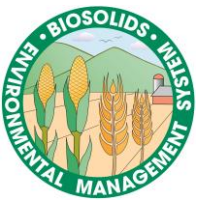
- Chris Seney (Vice President, Nursery Products Services)
- Chris Marks (Denali Water Solutions, Area Environmental Manager – West)

## Observers

- Diane Jones, Environmental Engineering Associate IV, LA Sanitation
- Cindy Vellucci, Senior Environmental Specialist, Orange County Sanitation District
- Steven Ortega, Environmental Compliance Inspector, LA Sanitation

## Documentation Reviewed

- Nursery Products Standard Operation and Procedures
- Nursery Products Emergency Response Plan/Business Emergency Plans (BERP)
- New Employees Training Log
- Odor Complaint Log
- Special Occurrence Log



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



## Interested Party Interviews

**Scope/Audit Area:** Interested Party Relations (Public Outreach and Communication Program)

**Report Date:** June 22, 2016

**Audit Dates:** June 8, 15, 20, 2016

**Audit Conducted By:** Diane Jones, observed by Christina Jones and Stephen Opot

### Purpose

To determine if the communication and outreach program allows opportunity for interested parties to be involved in the City's Biosolids Management Program (BMP) and is effective in keeping them informed.

### Methodology

Interview

### Audit Findings

- LA Sanitation does a good job in involving the public in the BMP and inviting them to participate in audits.
- The outreach media used is effective in keeping the public informed about the BMP.
- E-mail communication is an effective tool in reaching out to interested parties.
- The City does a good job of managing the biosolids but should showcase its accomplishments more so that others not involved in the BMP would be informed.
- The City does a good job of responding to inquiries and feedback received from public and interested parties.
- The communication and outreach program is functioning effectively.

### Strengths

The communication program allows for several opportunities for interested parties to be involved in the Biosolids Management Program and the outreach tools used, such as Environmental Learning Center and the Annual Performance Report are effective in keeping the public informed.

### Nonconformances

None identified.

### Opportunities for Improvement

- The City of Los Angeles could provide more information on the compost products produced and the availability.
- The City of Los Angeles could do more to showcase the accomplishments of the biosolids management program.

### Persons Interviewed

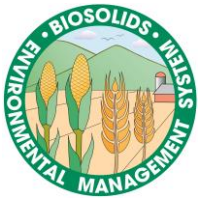
- Lauren Fondahl, EPA Region IX Biosolids Coordination
- John Pastore, Executive Director, Southern California Association of Publicly Owned Treatment Works
- Denny Schneider, OneWaterLA Stakeholder, Westchester Neighborhood Association
- Dr. Tom Williams, Citizens Coalition for Safe Community, Sierra Club Water Committee

### Observers

None present.

### Documentation Reviewed

- Annual Performance Report (2015, 2016)
- Biosolids Management Program Critical Control Points Factsheets



# City of Los Angeles Sanitation Biosolids Management Program Interim Audit Report



- LASAN Internet Site-Biosolids Page