



**National Biosolids Partnership
Biosolids Management System Audit Report**

**Orange County Sanitation District
Fountain Valley, California**

Report Date: January 29, 2011

Audit Conducted By

DEKRA Certification, Inc., Chalfont PA
Auditors: Mr. Michael Wardell – Biosolids EMS Lead Auditor

Audit Dates

January 10-12, 2011

Review and Approval

Report Prepared By: Michael Wardell, Biosolids EMS Lead Auditor

Reviewed By: Rachel Van Excel, OCSD

Final Approval By: H. Pierre Sallé

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

Table of Contents

1. SUMMARY	3
1A. Audit Scope, Criteria and Methodology	3
1B. Summary of Audit Findings	4
1C. Appeals.....	4
1D. Agreements & Requests	5
2. AUDIT DETAILS.....	6
2A. Local Agency Details.....	6
2B. Audit Phases and Timing	6
2C. Audit Team	6
2D. Reference Materials	6
2E. Definitions of Terms	7
3. SUMMARY OF AUDIT RESULTS.....	8
3A. BMS Outcomes.....	8
3B. Audit Results by EMS Element	9
3C. Strengths	9
3D. Opportunities.....	9
3E. Review of Open Nonconformances.....	9
3F. Audit Conclusion and Verification Statement.....	10
4. DETAILED AUDIT RESULTS	11
4A. Audit – Continuing Management Dynamics.....	11
4B. Audit – Compliance with Legal & Other Requirements	12
4C. Audit – Control of Contractors	12
4D. Audit - Critical Control Points and Operational Controls	12
4E. Audit – Document Control and Recordkeeping.....	13
4F. Audit – BMS Internal Audits	13
4G. Audit - Biosolids Use and Disposition – Arizona Soils (Synagro), La Paz County, AZ & EnerTech, Rialto, CA.....	14
APPENDICES	15
a) List of Interview Participants	15
b) List of Documents Reviewed.....	16

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

1. SUMMARY

The purposes of this audit were to:

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

During the audit DEKRA reviewed several processes and activities that OCSD uses in managing its biosolids program. The audit was performed consistent with the NBP Auditor Guidance (2007) and followed the interim audits program agreed upon by OCSD and DEKRA.

The audit determined that:

- The OCSD biosolids management system meets NBP expectations and requirements of NBP's EMS Elements.
- All nonconformances from the previous third party audit (completed January 2010) were closed.
- Use of a management system approach is generating positive outcomes for the biosolids program.

Based on the audit results, DEKRA recommends continuing certification of the Orange County Sanitation District biosolids management system within NBP's Biosolids EMS Program.

1A. Audit Scope, Criteria and Methodology

This audit is an interim audit of the OCSD BMS, and as such covered portions of the biosolids value chain as applied to OCSD's biosolids program, with special attention to practices and management activities that directly support biosolids-related operations, processes and activities.

The scope of this audit included:

- Review of OCSD Biosolids BMS documentation
- Review of corrective action completed for nonconformances identified during the previous Surveillance Audit (January 2010)
- Continuing Management Dynamics Review assessing
 - Corrective and Preventative Action Process
 - Goals and Objectives
 - Management Involvement, including Policy and Management Review
 - Results of Internal Audits

Biosolids Management System Audit Report Orange County Sanitation District, Fountain Valley, CA

- Interviews with interested parties
- Examination of outcomes OCSD is achieving through the use of their BMS
- Audits of the following processes
 - Compliance with Legal and Other Requirements
 - Control of Contractors
 - Critical Control Points and Operational Controls
 - Document Control and Recordkeeping
 - EMS Internal Audits
 - Biosolids Use and Disposition
 - Composting – Synagro (La Paz County, AZ)
 - Energy – EnerTech (San Bernadino County, CA)

The criteria for this audit were the requirements and expectations specified in the National Biosolids Partnership EMS Elements (May 2002).

The audits were performed by assessing key processes within the OCSD biosolids program for conformance with requirements of applicable EMS Elements. Using sampling techniques, the auditors interviewed key persons, observed practices in place and reviewed pertinent documents and records for each process. Representative interested parties, including regulators, were interviewed to obtain stakeholder perspectives on the biosolids program.

1B. Summary of Audit Findings

BMS Outcomes

OCSD has achieved significant outcomes through the use of an environmental management system in managing its biosolids program, including cost saving initiatives and improved public acceptance. Details are described in Section 3 of this report.

Nonconformances

There were no nonconformances identified during this audit.

Strengths

During the audit, DEKRA noted strengths in the OCSD BMS. These strengths are described in the “Detailed Audit Results” section of this report.

Opportunities for Improvement

During the audit, DEKRA noted opportunities for improvement in the OCSD BMS. These opportunities are described in the “Detailed Audit Results” section of this report.

1C. Appeals

The NBP provides an appeals process for biosolids organizations and interested parties that disagree with the findings of a third party EMS audit. The verification appeals process involves an Appeals Board representing a balance of biosolids management interested parties, including an environmental advocacy group, and wastewater industry professionals. An appeal must be

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

submitted within 30 days of the official verification decision or interim audit decision by the Audit Company. Anyone who may need help in understanding the appeals process should contact the National Biosolids Partnership Chairman of the Appeals Board:

Gordon Garner, P.E.
7300 Happy Hollow Road
Prospect, KY 40059-9356

In addition, OCSD may, if it chooses, appeal the manner in which this audit was conducted and/or any findings directly to DEKRA by contacting DEKRA's headquarters at 4377 County Line Road, Chalfont, PA. DEKRA will review any such appeal to verify that the audit and/or any findings are consistent with acceptable management system auditing practices.

1D. Agreements & Requests

The next interim audit is tentatively planned for the week of January 9, 2012. The exact dates will be confirmed at a later time.

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

2. AUDIT DETAILS

2A. Local Agency Details

Agency Name: Orange County Sanitation District

Address: 10844 Ellis Avenue, Fountain Valley, California 92708

Biosolids Production Location(s):

Reclamation Plant No. 1 - Fountain Valley, California

Treatment Plant No. 2 - Huntington Beach, California

Number Employees: 648

Gallons of Wastewater Treated: 213 million gallons per day

Tons of Biosolids Produced: 650-700 tons per day (7 day basis)

Biosolids use / Disposition Sites Audited

Arizona Soils (Synagro Composting Facility), La Paz County, Arizona
EnerTech Energy Facility, Rialto, California

Contractors Participating

Synagro (Arizona Soils)
EnerTech

2B. Audit Phases and Timing

The on-site audit of OCSD was conducted January 10-12, 2011 and included audits of processes used in the OCSD biosolids program, review of contracted operations and representative biosolids use sites, interviews with interested parties and examination of EMS outcomes.

2C. Audit Team

The National Biosolids Partnership contracted DEKRA Certification, Inc. to perform this audit on their behalf. DEKRA's Audit Team consisted of:

Michael Wardell - Biosolids EMS Lead Auditor

The above auditor is qualified to perform this audit through certification by the National Biosolids Partnership. DEKRA asserts that the relationship that our firm and auditors have with Orange County Sanitation District is independent and meets criteria established by the National Biosolids Partnership for Third Party Audit Companies and Third Party Auditors.

2D. Reference Materials

The following documents were used as references during this audit:

OCSD BMS Manual

National Biosolids Partnership "EMS for Biosolids" standard (May 2002)

National Biosolids Partnership Biosolids EMS Auditor Guidance (August 2007)

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

National Biosolids Partnership Code of Good Practice
National Biosolids Partnership Manual of Good Practice

2E. Definitions of Terms

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

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

Strength – an aspect of the BMS which represents a best practice or exemplary aspect of the BMS implementation.

Opportunities (for improvement) – suggested improvement(s) in the BMS based on auditor observations. There is no obligation for action in response to these observations.

Corrective Action Plan – a plan developed by the agency being audited to correct a nonconformance and/or prevent that nonconformance from re-occurring.

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

3. SUMMARY OF AUDIT RESULTS

3A. BMS Outcomes

OCSD reported the following outcomes from the use of an environmental management system approach to managing their biosolids program in the past year. DEKRA examined these outcomes and agrees that they represent gains achieved by the use of the OCSD BMS.

Regulatory Compliance

- Development of the Regulatory Tracker system, which is an on-line system to track regulations and regulatory issues with on-line system with weekly email update
- Improvements to the Level of Service (LOS) measurements to make them more meaningful and measurable; SMART

Environmental Performance

- Developed tool which provides "live" analysis of tonnage per contractor compared to contract requirements
- Revised truck log at treatment plant and formalized responsibility for OCSD operators regarding inspection of trucks; creation of training materials
- Use of Project and Issue Tracker has improved recordkeeping and ease of recalling and organizing information

Biosolids Quality Practices

- Revised Issue Tracker system, including addition of reviews, improved organization, more effective closure
- Staff reorganization has led to improving physical proximity of BMS staff, improving communication

Interested Party Relations

- OCSD has approved policy that allows use of social media such as Twitter, Facebook, etc.
- Monthly report to management with significant issues sent to management

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

—

3B. Audit Results by EMS Element

No nonconformances were identified during the audit. The OCSD BMS has been effectively implemented and meets the expectations of the NBP EMS Elements.

3C. Strengths

The following strengths of the OCSD Biosolids Management Program were identified during the audit.

- BMS has helped to maintain focus on contractor issues which might otherwise have been overlooked.
- OCSD has an excellent contractor oversight program and has driven EMS principles down to the contractor level

3D. Opportunities

The following opportunities for improving the OCSD Biosolids Management Program were identified during the audit. It is based on the Auditors experience only and there is no requirement for action by OCSD in response to these observations.

- OCSD could consider organizing BMS related procedures and training materials in a central location.
- OCSD could refine the internal audit process to consider how NBP EMS Elements and OCSD processes interrelate, developing an audit approach which addresses multiple aspects of the system within each process audit.

3E. Review of Open Nonconformances

DEKRA auditors reviewed corrective action taken in response to the nonconformance that remained open from the previous NBP Third Party Audit in January 2010.

Minor Nonconformance JS-10-01: NBP EMS Element 11 requires OCSD to ensure contractors establish and maintain effective Emergency Preparedness and Response Plans and Procedures. Further, OCSD's contract with EnerTech dated February 20, 2007, requires EnerTech to "establish and maintain emergency preparedness and response plans and procedures..."

A review of an internal audit dated 11/25/09 revealed that while EnerTech has provided a biosolids spill prevention plan, EnerTech has not yet provided a comprehensive Emergency Preparedness and Response Plan, as required by NBP Element 11 and OCSD's contract with EnerTech.

Corrective Action – the required plan has been prepared and approved by OCSD. In addition, to address the root cause, OCSD has improved the process for following up on internal audit findings. **This finding is closed.**

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

3F. Audit Conclusion and Verification Statement

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

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

4. DETAILED AUDIT RESULTS

DEKRA made the following observations and findings during this audit. Process descriptions are summaries only.

4A. Audit – Continuing Management Dynamics

The Continuing Management Dynamics review addresses core processes of the Biosolids Management System.

- Corrective and Preventative Action

The effectiveness of the corrective action process was assessed. OCSD utilizes a web based system in Sharepoint to track audit results and prepare and track corrective action plans.

Audit Results

The corrective and preventative action process is effective and meets the expectations of the NBP EMS Elements.

- Goals and Objectives

OCSD has an effective goal setting process which operates at all levels of the organizations. Goals set for 2010 have been met, and the goal setting process for 2011 is underway.

Audit Results

The goals and objectives process is effective and meets the expectations of the NBP EMS Elements.

- Management Involvement

Management involvement has been demonstrated through actions taken regarding issues raised in management reviews and programs for measurement and improvement. The actions taken are consistent with the OCSD BMS goals, objectives and policy. Management reviews are being conducted in accordance with OCSD procedures.

Audit Results

Management involvement at OCSD is effective and meets the expectations of the NBP EMS Elements.

Strength: The BMS has helped to maintain focus on contractor issues which might otherwise have been overlooked.

- Internal Audits

Internal audits conducted since the last surveillance were reviewed. Effectiveness of the audits as well as resultant corrective action was assessed. The internal audit process was found to be effective.

Biosolids Management System Audit Report Orange County Sanitation District, Fountain Valley, CA

Audit Results

OCSD has an internal audit process which is robust and effective, and which meets the expectations of the NBP EMS Elements.

Opportunity: OCSD could refine the internal audit process to consider how NBP EMS Elements and OCSD processes interrelate, developing an audit approach which addresses multiple aspects of the system within each process audit.

4B. Audit – Compliance with Legal & Other Requirements

Process Description

OCSD has been reorganized, and the former Environmental Compliance and Regulatory Compliance (ECRA) Section eliminated and those responsibilities moved into the Environmental Compliance Section under Engineering. A regulatory specialist maintains a Regulatory Tracker system which regularly updates management regarding the status of various regulatory initiatives. Operators monitor operating data and lab analysis results at least daily to ensure compliance and the data is recorded in LIMS. Compliance data is reviewed regularly by Engineering and Environmental Compliance staff. Routine reporting continues to stakeholders, State regulators and the USEPA.

Audit Results

The process was found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

4C. Audit – Control of Contractors

Biosolids are transported to beneficial use or processing sites in California and Arizona. OCSD utilizes contractors for biosolid transportation and management. Contracts specify that contractors must comply with OCSD's BMS, including provisions for maintenance, public participation and communication. OCSD regularly audits contractor sites as well as conducts inspections of trucks used in hauling biosolids.

Audit Results

The processes described above were found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

Strength: OCSD has an excellent contractor oversight program and has driven EMS principles down to the contractor level

4D. Audit - Critical Control Points and Operational Controls

Critical control points are identified in the BMS Manual and in a table that includes environmental impacts and references operational controls at each step in the biosolids value chain. Identification of critical control points includes links between the CCP, environmental impacts and regulatory requirements. Critical control points are reviewed annually to ensure they are up to date and changes are made as necessary. Management and staff understand the concepts of critical control

Biosolids Management System Audit Report Orange County Sanitation District, Fountain Valley, CA

points. OCSD has made a number of improvements in this process over the years and now find this tool be more useful.

Audit Results

The processes described above were found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

4E. Audit – Document Control and Recordkeeping

Process Description

EMS procedures and practices are described in the OCSD BMS Manual. This manual includes requirements that correspond to the EMS Elements, organized into 18 sections – 17 that correspond to the NBP EMS Elements, and a final section on Outcomes. The manual is available on the OCSD intranet and internet and is intended to be used on-line, as most of the sections have hot links to related documents, procedures, etc. The OCSD EMS Manual audited was dated December 17, 2010.

Audit Results

The EMS Documentation was found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

Opportunity: OCSD could consider organizing BMS related procedures and training materials in a central location.

4F. Audit – BMS Internal Audits

Process Description

The OCSD internal audit process includes several components. An annual internal audit is conducted to insure conformance to the 17 Elements in the OCSD EMS manual. This audit was conducted in November 2010. OCSD also audits specific aspects of the BMS including Code of Good Practice for Contractors and Goals and Objectives in 2010. These audits did generate findings which are addressed in the Corrective and Preventative Action process. In addition, OCSD staff does regular inspections of the vendor facilities used for biosolids management, as well as inspections of trucks either at the plant sites or vendor facilities. The results of these inspections as well as internal audit results are presented at biweekly or quarterly management review meetings.

Audit Results

The process was found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

Opportunity: OCSD could refine the internal audit process to consider how NBP EMS Elements and OCSD processes interrelate, developing an audit approach which addresses multiple aspects of the system within each process audit.

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

4G. Audit - Biosolids Use and Disposition – Arizona Soils (Synagro), La Paz County, AZ & EnerTech, Rialto, CA

Process Description

OCSD produces a Class B biosolids at both wastewater facilities. These dewatered biosolids are transported by vendors (contractors) to a number of use sites in California and Arizona. Biosolids undergo additional treatment at several of these facilities. Biosolids are processed into a Class A product at the Arizona Soils facility through windrow composting. A biofuel is produced at the EnerTech Facility in Rialto, CA by physical/chemical processes and drying. OCSD oversight of these contractors involve regular reports submitted by the contractors as well as on-site audits. OCSD requires contractors to conform to the requirements of OCSD's BMS and the NBP 17 Elements.

Audit Results

The process was found to conform to applicable EMS for Biosolids requirements and be consistent with NBP expectations.

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

APPENDICES

a) List of Interview Participants

The following personnel participated in this audit. Where necessary, other employees provided additional explanations.

OCSD

Rachel Van Exel	Senior Environmental Specialist, BMS Coordinator
Deirdre Bingman	Principal Environmental Specialist
Jim Colston	Environmental Compliance Manager
Leyla Perez	Senior Environmental Specialist, Biosolids Inspector
Dave Heinz	Operations Manager
Ed Torres	Director of Operations and Maintenance
Jim Herberg	Director of Engineering
Tom Merigillano	Regulatory Specialist
Lisa Rothbart	Environmental Supervisor

Contractors

Lorrie Loder	Public Relations/Technical Services Director, Synagro
Craig Geyer	Senior Operations Manager, Arizona Soils, Synagro
Ken Johnson	Technical Services Director, Synagro
Marty Bellanti	Operations Manager, Arizona Soils, Synagro
Russ Miller	VP, Energy Products, EnerTech
Nate Woods	Lab Supervisor, EnerTech

Interested Parties

Teri Crawford	Code Enforcement Officer, La Paz County, AZ
Julio Lara	Santa Ana RWQCB
Shannon Johnson	Regional Environmental Health Specialist, San Bernadino County, CA

Biosolids Management System Audit Report
Orange County Sanitation District, Fountain Valley, CA

b) List of Documents Reviewed

2010 BMS Manual Update, 11/5/10
Arizona Soils Complaint Log
Arizona Soils Material Management PFRP Records, 1/1/11
AZ Soils Odor and Fly Complaint, 4/28/10
AZ Soils Safety Training Topic List, 12/20/10
Biosolids Contractor Requirements Review, Arizona Soils, 11/30/10
Biosolids Group Meeting Agenda, 1/4/11
Biosolids Management Plan, Arizona Soils, 1/7/11
Biosolids Program Process Flowchart, 12/16/10
Community Complaint and Response Form, 12/8/10
Community Inquiry/Complaint Form for EnerTech, 9/24/10
Complaint Form (EnerTech), 9/17/10
Contractor Oversight Flow Chart (undated)
Critical Control Points Table, 2010
Critical Control Points Table, Revised for 2011, 1/2011
Email from P. Townsend to EnerTech re: Rialto Wash Discharge, 9/24/10
Email from R. Miller to OCSD re: Production Report for 1/10/11
EnerTech Biosolids Management Plan, Appendix D, Spill Response Plan, Rev 4.1, 12/10
EnerTech Rialto Block Flow Diagram, November 2010
EnerTech Update Power Point Presentation, November 2010
GSTC Safety Training Sign-in Sheet, Fog Safety, 12/22/10
Initiative Tracker (Sharepoint)
Internal Audit Summary Report - Goals and Objectives, 7/15/10
Internal Audit Summary Report - Internal Audits Program, 4/16/10
Internal Audit Summary Report - NBP Code of Good Practice for Contractors, 8/20/10
Internal Audits Schedule and Program Outline (Sharepoint)
Initiative Tracker - Kern County Lawsuit (Sharepoint)
Issue Tracker (Sharepoint)
Memo to Wayne Wade regarding fly and odor control, 12/9/10
Mister Systems Service Log, 1/6/11
OCSD Biosolids Legal Requirements Checklist, 4/2009
OCSD BMS Contractor Requirements SummaryOCSD Five Year Strategic Plan, November 2010
OCSD Inspection Report, Arizona Soils, 11/30/10
OCSD Organization Chart, 9/16/10
OCSD Reorganization, 12/16/10
Offsite Complaint KPI Definition, 1/5/11
Regulatory Advocacy Update, 12/10
Rialto Monthly Progress Report, November 2010
Rialto Regional Biosolids Processing Facility Training Manual, Rev 0
SOP AZS PVAR 01-2004, Rev 1/1/09
Synagro Material Management PFRP Worksheet, 1/10/11

End Of Report