

**NATIONAL BIOSOLIDS PARTNERSHIP AUDIT REPORT**

**City of Albany Water Reclamation Facility  
Albany, Oregon**

**Audit conducted by**

**Curtis Barton, Clackamas County WES (Lead Auditor)**

**Chris Bailey, City of Albany**

**References:**

**National Biosolids Partnership (NBP) EMS Elements – May 1, 2002**  
**NBP Third Party Verification Auditor Guidance – November 2001**  
**(Latest Revision August 2007)**  
**NBP Code of Good Practice**  
**City of Albany Environmental Management System for Biosolids**  
**Environmental Management System Manual**  
**(Latest Revisions – June 2008)**

## **INTRODUCTION**

The purpose of the Biosolids Environmental Management System (EMS) interim audits is to verify through regular reviews the system's health and effectiveness between verification audits. The on-site interim audits provide independent reviews, and support credibility between re-verification audits. The goal of the interim audit is to collect and evaluate objective evidence related to a portion of the EMS such that over the course of the four interim audits, all 17 elements are covered. The audits determine whether the City of Albany EMS for Biosolids is functioning as intended, that practices and procedures are conducted as documented, and that the EMS as implemented conforms to the NBP's Code of Good Practice and EMS program objectives.

The audit began at 9:00 am at the new Albany-Millersburg Water Reclamation Facility (A-M WRF) with introductions. An item of discussion included the fact that normally, the year three interim audit is a required third party audit. However, because of the plant construction with treatment processes currently transitioning from the old plant to the new, Bill Hancuff of NSF authorized use of an internal audit for the third year with the year four audit conducted as a third party audit.

## **RECOMMENDATION**

The results of the year three interim audit of the City of Albany EMS for Biosolids are positive and it is the decision of the auditors that the Albany-Millersburg Water Reclamation Facility Biosolids EMS maintain its "Certification" status.

## **REVIEW**

Before following the audit schedule, the auditor reviewed the progress on the nonconformances and opportunities for improvement from last year's audit. Both of the minor nonconformances from the year two interim audit were identified and tracked using the Corrective Action Forms, and were closed within 30 days of the audit. Several opportunities for improvement were either completed or underway.

## **AUDIT SCOPE**

The City of Albany conducted an internal interim audit of the City's EMS for Biosolids on May 5, 2009. The on-site interim audit team consisted of Curtis Barton (Clackamas County Water Environment Services), Lead Auditor, and Chris Bailey, Auditor.

The scope of the year three interim audit included review of the following core element requirements:

- EMS outcomes (environmental performance, regulatory compliance, interested party relations, and quality practices)
- The organization's progress toward goals and objectives (Element 5)
- Actions taken to correct minor nonconformances (Element 14)
- Management review process (Element 17)

- Corrective and preventive action requests and responses (Element 14)

In addition the audit included:

- Element 6 – Public Participation
- Element 9 – Communications
- Element 2 – Biosolids Management Policy
- Element 4 – Legal Requirements

The following individuals were interviewed as part of the interim audit process:

- Chris Bailey, Water Quality Control Supervisor (EMS Coordinator)
- Herb Hoffer, Environmental Services Manager
- Tom TenPas, Environmental Services Technician II (Biosolids)
- Richard Johnson, Water Reclamation Facility Supervisor
- Lenée Casteel, Lead Wastewater Treatment Operator
- Mike Wolski, Assistant PW Director/Operations Manager

## **INTERIM AUDIT FINDINGS**

The interim audit found no major nonconformances, no minor nonconformances, four opportunities for improvement and two positive commendations.

The following is a review of the positive observations made during the interim audit. Opportunities for improvement follow and are listed by item number in the sequence of the NBP standard element auditor guidance.

### **Positive Observations**

- Quarterly reports are generated that summarize the progress of Goals and Objectives
- Public input is actively solicited by the City through articles in their various newsletters.

### **Opportunities for Improvement**

1. Additional opportunity for interested party input can be obtained at various citizen advisory committee meetings (i.e. the Albany/Millersburg Water Task Force.)
2. Addition of a “Follow-Up Action” column on the internal quarterly report to document closure or result of an interested party inquiry.
3. Add language in Procedures, #2 in Element 14 to include, “opportunities for improvement” as additional criteria to initiate an informal Corrective Action Form process.
4. During the EMS Manual revision, evaluate environmental impacts of the critical control points in Element 3 in terms of air quality, land quality, water quality, public health, and energy use impacts rather than increased biosolids volume, runoff to headworks, or unwanted materials in the biosolids

## **AUDITED ELEMENTS**

### **Element 2 – Biosolids Management Policy**

For Element 2 and Element 17, the Assistant Public Works Director, Mike Wolski, was interviewed. The City established the Biosolids EMS program in the early 2000. EMS team members are still searching for the City Council documents establishing the program. However, Mr. Wolski knows that this occurred because he was present at the meeting and remembers it being approved. As for communicating the policy to employers, contractors and all interested parties, the City prints the policy in the footer of its stationary and newsletters so that people receiving these documents will see the policy.

### **Element 4 – Legal and Other Requirements**

The Environmental Services Manager is responsible for tracking, forwarding and notifying staff regarding regulatory changes. The concept of “Other Requirements” was discussed. The City does not contract for biosolids processing or hauling. Because of the transition of treatment processes from the old facility to the new one, the digestion process is not working properly and consequently, the final product cannot be land applied because it does not meet Class B requirements for biosolids. Instead, the City has the partially digested sludge hauled to the Coffin Butte landfill. Staff obtained the necessary testing and evaluation prior to the change to the interim digestion process and has worked with Allied Waste as a contract hauler, providing training on the EMS and spill plans to each driver. The City is managing the solids produced during the interim process with the four EMS outcome areas in mind.

### **Element 6 – Public Participation In Planning**

In Element 6 of the City’s EMS Manual, there is a section entitled, “Background Information.” Because this information goes back to 2000, it was decided to remove this section since it is not relevant to the program as it exists today.

The City provides meaningful opportunities for the public to provide input through the following:

- Website “Contact Us” link
- Adjacent Field Owners Notification
- City Newsletters including: “Biosolids Newsletter”, ”The Industrial Pretreatment Newsletter”, and ”City Bridges”

There was discussion that an additional opportunity for interested party input could be obtained from the staff’s attendance at the monthly meeting of the Albany/Millersburg Water Task Force. These meetings include discussions about the treatment facility upgrade and permitting.

Tracking of public input is published in the quarterly EMS report. When someone calls to complain, they are automatically included on the interested party list and are taken off when they request it. The City is careful about over building the interested party list since there is a fine line between informing the public and annoying them.

Adjacent field owners' notification is generated from the assessors map when a new field is in the process of being authorized. Those names are also included into the interested party list. This particular notification contains information about the quality of the City's biosolids and an invitation to provide comments. These documents are kept in the field files.

Response and input are kept on a communication log. However, because there are very few responses, the log has not been looked at recently. Inputs are tracked on the EMS quarterly reports which include name, date, and comments. A suggestion is to include a column for follow-up action.

### **Element 9 – Communication**

The opinion of the City's EMS Team is that Element 6 and 9 are one and the same since that at the same time they are asking for input, they are also providing information about the City's biosolids program.

As another outreach activity, the City sets up a booth at the annual county fair that is held at the end July. Information about the City's EMS program is provided in addition to other City services and activities.

### **Element 14 – Nonconformances: Preventive and Corrective Actions**

The EMS team is still evaluating whether to develop criteria on when to initiate the Corrective Action process in an "informal" discovery. The inclination is not since there are very few instances of this occurring. The team informally defines the criteria as an unusual situation that can potentially affect the biosolids program. However, language under Procedure #2 can be revised to include "opportunity for improvement" as another trigger for an informal Corrective Action process.

An example of this is documented in Corrective Action Form, Finding Number: 1208-001. The finding is that 3<sup>rd</sup> quarter analysis of the biosolids indicated elevated levels of Ni, Mo, and Zn. The levels did not approach EPA clean sludge standards, but the team determined that the cause needed to be identified to prevent possible deterioration of biosolids quality. Although the cause was not identified, the issue is at least documented and can be referred to if there is another occurrence.

As for a "Formal" Corrective Action Plan, the criteria is described in Element 14, namely, where a nonconformance is identified through an internal or third-party audit.

### **Element 17 – Management Review**

Element 17 in the City's EMS Manual requires that a management review meeting be conducted no later than January 1 of each year. (Because of bad weather this year, this meeting was held January 7, 2009.) A report was submitted to the Public Works Director and the Assistant Public Works Director on December 22, 2008 outlining the EMS program accomplishments and a listing of discussion points.

On January 7, 2009, a management review meeting was held. Documents that were reviewed included the 2008-2009 Goals and Objectives and the Two Year interim Audit Report. A document outlining Outcomes and Action Items was distributed to the EMS team on January 12, 2009.

As a result of the management review, the EMS team was able to review and revise their Goals and Objectives. The new Goals and Objectives were published in the quarterly report of April 1, 2009.

The City is also proceeding with development of an APWA Certification program that is similar to the EMS program. An audit is already set up for next year and the program is being coordinated by the Public Works Administration Supervisor.

### **CITY OF ALBANY BIOSOLIDS OPERATIONS COMMENTS**

The City of Albany Biosolids EMS Team believes the EMS program continues to offer the City benefits including positive relationships with state regulators and local growers. The Year Three Interim Audit provided the City with a timely check of the EMS program and added value to our biosolids management process. Conducting this Interim Audit internally saved the City considerable cost. However, to help maintain our credibility, we invited a staff member from Clackamas County's Water Environment Services (WES), also an NBP-certified agency, to help with the audit. The use of an auditor from a separate agency that also participates in the EMS program provided us with an objective evaluation and the experience clearly benefitted both Albany and Clackamas County WES.

The Biosolids EMS Team has worked this year to ensure the four outcome areas and other EMS requirements are met in the midst of major process and biosolids quality adjustments. Transition from the former wastewater treatment plant to the interim process using components of the new facility created a number of challenges. The EMS Team is proud to have anticipated and developed contingency plans to successfully deal with those challenges. Although a significant quantity of biosolids are being disposed of at the landfill rather than land applied, the Team feels this is the most responsible action to take with regard to the environment, regulatory requirements, and public acceptance. The Team will continue to monitor the transition to the fully-functional water reclamation facility and will work to ensure Albany's biosolids are properly managed.

### **OUTCOMES MATTER**

The City of Albany Biosolids Program established four major groups of biosolids EMS goals and objectives for 2008-09 consisting of four goals and 11 individual objectives. These goals were developed through discussions within the EMS Team and input requested from staff in the biosolids value chain, interested parties and department management. The City's Biosolids goals for its EMS were established cognizant of each of the four outcome focal points of the NBP program as identified below:

1. Environmental Performance

2. Regulatory Compliance
3. Relations with Interested Parties
4. Quality Biosolids Management Practices

While it is not a requirement to attain all objectives established, it is a critical part of the system to make progress towards the overall goals. The City's performance relative to each of the above groups is addressed below.

### **Environmental Performance**

In the Environmental Performance area, the City established two goals with five objectives for 2008-09. The first goal was to meet or surpass regulatory requirements associated with biosolids. There were three objectives associated with this goal. The key objective related to environmental performance under this goal is to maintain biosolids 25% below the federal clean biosolids limits.

The second goal was to optimize the production of biosolids so that storage bin capacity was not exceeded. This was to be accomplished through meeting two objectives. During the wet season (1 November to 1 May), storage was not to exceed 75% of capacity, and during the remainder of the storage season (1 May to start of application), it was not to exceed the additional 25% of capacity. This objective was met by actively managing the belt filter press operation. The second objective was to take advantage of all opportunities to land apply. This objective included contacting growers regarding the availability of fields for wet-weather or spring/fall applications.

The City made progress in these goals and objectives. The biosolids storage bins were 63% full on March 31, 2008. The maximum storage level reached in 2008 was 88%, leaving 12% capacity in the bins. The operations personnel maintained 100% availability of at least one belt filter press throughout 2008 and the first quarter of 2009.

### **Regulatory Compliance**

In the Regulatory Compliance area, the City established two goals with seven objectives. Goals and Objectives describe:

1. Zero industries in SNC
2. Zero notices of permit violations related to land application or disposal of biosolids.
3. Maintaining 100% WWTP functionality during construction and transition.

Item numbers 1 and 2 were met. However, the plant exceeded its mass TSS discharge limits during the beginning of November. During this time, the area experienced heavy rainfall while at the same time the discharge limits changed to winter limits. In all other instances, compliance was maintained.

### **Relations with Interested Parties**

In the Relations with Interested Parties area, the City established one goal with two objectives to increase the community's awareness and acceptance of quality biosolids. The objectives associated with this goal included:

- Provide biosolids information from at two public events
- Improve biosolids EMS web page.

The City attained its objectives in this area. Staff rented space and presented information on Albany's biosolids program at both the Linn County Fair and the Willamette Valley Ag Expo. The biosolids web page has been updated regularly including the addition of new items such as the quarterly newsletter.

### **Quality Biosolids Management Practices**

Goals and Objectives describe

1. Optimize bin storage to separate anaerobic and aerobic biosolids.
2. Continue communication with project consultants and contractors
3. Investigate options for transition to Class A biosolids when cannibal system is on-line.

Item number 1 was completed. In line with Number 2, the City, consultants, and contractors are working together on plans to monitor and evaluate the biosolids. The cannibal digester system is scheduled to be online by fall of 2009. As this time approaches, SOPs are being developed as the new processes come online.

The anaerobic digester is offline and cleaned out. Until the cannibal digester comes online in the fall, one of the VLR basins is being used as an aerobic digester. During the late winter, this process mode was used and did not work well. In order to prevent regulatory noncompliance, minimize environmental impacts, and maintain good relations with the public, the City decided, according to their contingency plans, to haul the sludge to a landfill until regulatory requirements can be met.

The City plans to resume interim aerobic digestion with a VLR basin within the next week. Staff believes the process will be successful this time since plant shutdown wastestreams will not be introduced and the solids inventory has been reduced.

### **CONCLUSIONS AND RECOMMENDATIONS**

The results of the year three interim audit are positive. Each of the non-conformances identified during the year two audit were completed within the required 30 days. No nonconformances were identified this year, and it is the recommendation of the audit team that the City of Albany Wastewater Biosolids EMS maintain its "Certified" status.

As was mentioned previously, an EMS is a continuous improvement process, and the results of this and future audits will provide value added to the system and should be viewed as an overall opportunity to improve. Every audit is a snapshot in time, and does not, or cannot, identify each and every area for improvement. And yet, while no single audit identifies all of the areas for improvement the results of each audit provide an additional incremental step in the overall system's improvement.

In the year four interim audits, these core processes will be analyzed:

- The organization's progress toward goals and objectives,

- EMS outcomes (environmental performance, regulatory compliance, interested party relations, and quality practices),
- Actions taken to correct minor nonconformances,
- Management review process, and
- Corrective and preventive action requests and responses;

Additionally, the following elements will be evaluated:

- Element 1 – EMS Documentation
- Element 15 – Performance Report
- Element 16 – Internal EMS Audit

## **Attachment 1**

### **Documents and Other Object Evidence Reviewed During the Year Two Interim Audit**

#### *Element 2. Biosolids Management Policy*

- EMS Element 2: Biosolids Management Policy
- Biosolids EMS standard letter template
- Interviews with Mike Wolski, Herb Hoffer, Chris Bailey

#### *Element 3. Critical Control Points*

- EMS Table 3.1 Biosolids Critical Control Points – Operations
- Interviews with EMS Team

#### *Element 4. Legal and Other Requirements*

- EMS Element 4: Legal Requirements
- Albany WWTP Discharge Monitoring Reports
- Interviews with EMS Team

#### *Element 5. Goals and Objectives for Continual Improvement*

- EMS Element 5: Goals and Objectives for Continuous Improvement.
- Table 5.1 – Biosolids EMS Goals and Objectives.
- Biosolids EMS – Goal and Objectives Action Plan Table – 2008-2009.
- Biosolids EMS – Goal and Objectives Action Plan Table – 2009-2010.
- Complete evaluation of progress on Goals and Objectives for 2008-2009.
- Assessment of outcomes in the four critical areas.
- Interviews with Chris Bailey, Tom TenPas, and Herb Hoffer.

#### *Element 6. Public Participation in Planning*

- EMS Element 6: Public Participation in Planning.
- 2008 Biosolids Management Program Performance Report.
- Interested Party letter dated March 7, 2008.
- Winter 2008 Biosolids Newsletter.
- Interviews with EMS Team.

#### *Element 9. Communication and Outreach*

- EMS Element 9: Communication and Outreach.
- Winter 2008 Biosolids Newsletter.
- Fall 2008 Pretreatment Newsletter.

- 2008 Biosolids Management Program Performance Report.
- Interviews with EMS Team.

*Element 14. Nonconformances: Preventive and Corrective Action*

- EMS Element 14: Nonconformance: Preventive and Corrective Action.
- Interviews with EMS Team.
- Reviewed Corrective Action Tracker and the required corrective action forms from the Year Two interim audit.
- Reviewed corrective action forms for informal corrective actions.
- Interviews with EMS Team.

*Element 17. Periodic Management Review of Performance*

- EMS Element 17: Periodic Management Review of Performance.
- Reviewed documentation of Management Review meeting of January 7, 2009 held with Diane Taniguchi-Dennis, Mike Wolski, Tom TenPas and Chris Bailey.
- Reviewed outcomes and action items contained in memo "Biosolids EMS Management Review Results" dated January 12, 2009.
- Interviews with EMS Team and Mike Wolski.

## Attachment 2

### National Biosolids Partnership Appeals Process

Biosolids organizations that participate in the National Biosolids Partnership (NBP) Environmental Management System (EMS) Program are required to undergo an EMS verification audit by an independent, third party auditor assigned by the NBP and yearly interim audits. The purpose of the EMS audit is to determine whether or not the organization's EMS conforms with -- that is, meets the requirements of -- the NBP program, as defined in the EMS Elements<sup>1</sup>. The spirit of these requirements includes a well-documented program and meaningful opportunities for interested party involvement.

The NBP provides an appeals process for biosolids organizations and interested parties that disagree with the findings of a third party EMS audit. The verification appeals process involves an Appeals Board; representing a balance of biosolids management interested parties, including an environmental advocacy group, and wastewater industry professionals. An appeal must be submitted within 30 days of the audit company's official verification decision or interim audit decision.

To submit an appeal before the Appeals Board, the petitioner must set forth the specific EMS element(s) and requirements that is believed to have not been evaluated and/or implemented consistent with NBP requirements as reflected in the EMS Elements, along with the objective evidence to support that claim. For example, a petitioner may believe that a major nonconformance exists but was not found by the auditor. In this case, the petitioner would need to identify in the petition the specific EMS element believed to be out of conformance and why.

To submit an appeal, petitioners must fill out and submit the standardized appeals petition form that is available on the NBP website at <http://www.biosolids.org>. A formal appeal must be submitted within 30 days of the verification decision or interim audit decision by the audit company.

The Board's Administrative Officer receives all appeals petitions on behalf of the Board and conducts a basic completeness check. Upon completion of this check, the petition is either forwarded to Appeals Board members or back to the petitioner with incomplete areas documented. Petitions should be sent via certified, return receipt requested mail to:

The NBP EMS Appeals Board, Attention: Board Administrative Officer, c/o  
Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314

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<sup>1</sup> The *EMS Elements* and other program materials are available on the NBP website at <http://www.biosolids.org>.

The Appeals Board will examine the facts, interview parties involved, deliberate the case, and then make a determination as to whether a major nonconformance does or does not exist. Appeals cases vary in complexity. As a result, the time required for the Board to evaluate a case and make a decision might vary. However, the overall Board target for processing an appeal is approximately four months.