

**NATIONAL BIOSOLIDS PARTNERSHIP AUDIT REPORT**

**City of Albany Wastewater Treatment Plant  
Albany, Oregon**

**Audit conducted by**

**NSF-International Strategic Registrations**

**William R. Hancuff, Lead Auditor**

**References:**

**National Biosolids Partnership (NBP) *EMS Elements*  
NBP *Third Part Verification Auditor Guidance – November 2001*  
*(Latest Revision March 2006)*  
NBP *Code of Good Practice*  
*City of Albany Wastewater Treatment Plant*  
*Environmental Management System Manual*  
*(Latest Revisions – April 2006)***

Final Report – May 15, 2006

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City of Albany (Signature) Date

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NSF-ISR, W. R. Hancuff, Date  
EMS and Biosolids Lead Auditor

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NSF-ISR, S. P. Davis, Date  
Business Unit Manager, EH&S Registration Services

## **INTRODUCTION**

The purpose of the Biosolids Environmental Management System (EMS) Third Party Verification audit is to verify the City of Albany, Oregon Wastewater Treatment Plant conformance to EMS requirements of the National Biosolids Partnership (NBP). The goal of the Third Party Verification audit is to collect and evaluate objective evidence that determines whether Albany's biosolids EMS 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.

## **RECOMMENDATION**

The results of the Albany verification audit are positive and it is the recommendation of the audit team that the Albany Biosolids EMS receive "Verification" status. Verification is not the end, but rather the beginning of a continuously improving biosolids management system.

## **AUDIT SCOPE**

In general terms, the scope of the Third Party Verification audit encompasses the entire biosolids value chain (pretreatment, collection and treatment, through final end use) with special attention on those practices and management activities that directly support biosolids-related operations, processes, and activities within the Wastewater Treatment Plant's operations.

The NSF- International Strategic Registrations, Ltd. (NSF-ISR) conducted a third party verification audit of the City of Albany's Biosolids Environmental Management System. The verification began with a documentation desk audit and operational readiness review (ORR) completed in mid-January with the results presented to the City of Albany on 19 January 2006. The process continued with an on-site verification audit from 18 April to 20 April 2006. The on-site audit team consisted of Dr. William R. Hancuff, Lead Auditor.

The physical biosolids facilities included in the audit and visited during the operational readiness review and verification audit included the City of Albany Wastewater Administrative Offices, Wastewater Treatment Plant, on-site biosolids storage area, and a couple of farm application sites.

The audit team selected different ultimate use application sites to visit, which included two private farmer application sites.

## **DOCUMENTATION REVIEW**

Document review was conducted in two parts, the desk audit/operational readiness review audit and the verification audit. During each of these activities various documents were reviewed to verify conformance with the NBP EMS program auditor guidance. Additionally interviews were conducted of various personnel to obtain additional objective evidence on the effectiveness of the implementation of the EMS. Attachment 1 summarizes the documents and other objective evidence associated with each standard element that was considered during the above mentioned audits.

## **DESK AUDIT/OPERATIONAL READINESS REVIEW**

A desk audit was conducted to complete the document review. The principal focus was on the City of Albany's EMS manual and supplemental information supplied with that document, such as cross referenced standard operating procedures, background reference information and various public outreach and communication materials.

The results of the desk audit/operational readiness review provided a number of observations and opportunities for improvement. This initial effort resulted in 35 observations and 6 opportunities for improvement. Detailed results from desk audit/operational readiness review are provided in Attachment 2.

All but one of the observations identified during the desk audit/operational review were found to have been corrected at the time of the verification audit. In addition, all opportunities for improvement identified during the initial audit/review were also addressed.

## **VERIFICATION AUDIT FINDINGS**

The verification audit covered all elements of the standard in considerably greater detail than the desk audit/operational readiness review. The former was performed by one auditor over a period of three days. The results demonstrated a considerable improvement in the system. The verification audit found no major non-conformances, 8 minor non-conformances and 7 opportunities for improvement and 10 commendations or positive observations. For an environmental management system, which is more complex than the ISO 14001 standard, this is an impressive accomplishment.

The following is a review of the positive observations made during the verification audit. Minor non-conformances and opportunities for improvement follow and are listed by item number in the sequence of the NBP standard elements.

### **Positive Observations**

The City of Albany's Wastewater Treatment Plant personnel involved in biosolids management should be recognized for their outstanding achievements, and the exceptional features of their Biosolids Management System. The following is a summary of those positive items observed during the audit.

- The City of Albany has an extremely well organized EMS Manual, which is the key to having a successful environmental management system.
- The pretreatment program has evolved to become an excellent example of management of this critical control point, which uses direct oversight of sampling and industrial operations to minimize non-compliance of industrial dischargers.
- The critical control point signs posted throughout the wastewater treatment plant provide visibility and support to the EMS.
- The City has developed a strong pro-active and aggressive public participation program despite the limited interest of the general public in biosolids.
- The City is commended for taking the initiative to develop the first-in-state biosolids newsletter and its new pretreatment newsletter.
- The planned farmers report showing each farmer who uses biosolids how much money is saved through land application is also a first.
- The wastewater treatment personnel developed an innovative method of EMS awareness through placing a shortened version of the EMS policy statement on the City's letterhead footer.
- The recently instituted use of spill drills is an excellent method of staying prepared for emergency situations which involve biosolids.
- City of Albany personnel actively participate in outside organizations such as the Northwest Biosolids Management Association's Continuous Improvement Systems Committee and the Statewide Association of Clean Water Agencies' Biosolids Committee and Pretreatment Committee.
- EMS and wastewater treatment plant personnel have an excellent working relationship with State regulators, ensuring good communications with this sector of interested persons.

And finally, the hard work and dedication of the EMS management team must be acknowledged. While attainment of the EMS verification goal is obviously a team effort the effectiveness of guidance provided by the management team assured attainment of this common goal.

### **Minor Nonconformances**

Item 4.3 –The recently updated Biosolids Management Plan has not been incorporated into the list of “other requirements” as contained in Appendix 4-A of the Manual.

Item 5.5 – A few of the goals and objectives did not meet all of the SMART criteria (specific, measurable, achievable, relevant and time bound). Specifically, some objectives or milestones are not specifically measurable.

Item 7.2 – No one has been specifically and officially appointed with the responsibility for ensuring the biosolids management program and EMS are implemented and maintained.

Item 10.2 – SOP No. BS-008 does not specify what constituents must be analyzed for soil and biosolids samples.

Item 10.4 – EMS Element 10 does not reference the Hansen maintenance management system, which is the preventive maintenance program for the operation of critical control points.

Item 12.2 – There is an inconsistency in the format and content of various SOPs used for the EMS by different organizations in the plant. The EMS manual, plant operations, biosolids transport, laboratory, and environmental services procedures are such examples. Some issues include: missing master list of plant SOPs with dates, inconsistency in effective dates, no assigned responsibility for operations’ SOP approval, several laboratory EMS procedures do not meet the document requirements.

Item 16.1 – EMS Element 16 does not define the minimum items that must be addressed in an internal audit.

Item 16.3 – EMS Element 16 procedure 8 does not clearly and specifically define the methodology, protocol, scope, and schedule; nor the roles and responsibilities of the auditors, management representatives, and others that may participate in the audit.

### **Opportunities for Improvement**

Item 4.2 – EMS Element 4 does not address the fact that specific operational regulatory requirements are found in the Standard Operating Procedures (SOPs) of the operations section.

Item 7.1 – The new biosolids management plan had not been distributed to the operations staff.

Item 10.2 – The Biosolids Management Plan incorrectly indicates the digesters are operated at between 98 to 101 degrees Fahrenheit, as opposed to 95.6 to 96.4.

Item 11.2 – It is not clear how EMS Element 11 procedure (which does not specify frequency of spill drills) works together with Element 8 and SOP BS-007; all related to emergency preparedness and response.

Item 14.3 – The corrective action form presented in Appendix 14-A does not have a space to use for identified preventive actions.

Item 16.1 – Interim audits are not addressed in EMS Element 16.

Item 17.3 – EMS Element 17 procedure 3 does not clearly define who is responsible for conducting the management review.

In order to address the above minor non-conformances, the City of Albany will prepare a non-conformance investigation report and will implement corrective actions according to their EMS procedures to provide continual improvements to their biosolids program.

There have been significant improvements in the City of Albany Wastewater Biosolids' EMS over the past few months as reflected in the reduction in the number of findings of the verification audit when compared with the number of observations identified in the desk audit/operational readiness review. This level of improvement will undoubtedly continue into the future.

## **CITY OF ALBANY WASTEWATER BIOSOLIDS COMMENTS**

The City of Albany's biosolids EMS Team felt the verification audit added value to the EMS program and fully expects to correct each minor nonconformance and most of the opportunities for improvement within the 30-day time period allotted. Items 10.2 and 7.1 may be slightly delayed because of the need to have the revised Biosolids Management Plan reviewed by the Oregon Department of Environmental Quality.

## **OUTCOMES MATTER**

The City of Albany Wastewater Biosolids Program established four major groups of biosolids EMS goals and objectives for 2005/2006 consisting of 5 goals and 13 individual objectives. These goals were developed through input from the internal EMS Workgroup. The City's Wastewater 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, and
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.

In the Environmental Performance area, the City established goals and objectives for optimizing the stabilized biosolids storage bin capacity through improving dewatering capability and reliability of the belt filter press operations, with the ultimate objective of not exceeding the finished product storage capacity. The focus is on improving the overall availability of the filter press through preventive maintenance measures. These goals and objectives include:

- Optimize belt filter press operation so that the bin storage does not exceed 80 percent of its capacity, and maintain quarterly summary report presenting results.
- Emphasize preventive maintenance on belt filter presses to ensure 90 percent or greater operational availability.

The City made progress in the above goals and objectives. The storage capacity reached a maximum of 92% in July 2005 because of weather conditions. The biosolids' operational personnel maintained 100% availability of belt filter presses throughout 2005. In addition to these specific goal related outcomes the City increased its protection of biosolids from metals contamination through an improved permits and pretreatment program; improved the loading rates and measurements of biosolids at land application sites, and improved measurements of metals removal at the wastewater treatment plant.

In the Regulatory Compliance area, the City established goals and objectives to meet or surpass applicable regulatory compliance requirements associated with biosolids products. These goals and objectives include:

- Maintaining or improving current pretreatment compliance levels.
- Achieving zero notices of violations related to management of biosolids.
- Maintaining biosolids 20% below the section 503 heavy metals standard.

The City has had no industries in significant noncompliance and reduced the number of violations by industrial waste dischargers. They have attained zero notices of violation related to management of biosolids since 2004, and have exceeded their goal of being 20% below the heavy metal concentrations required in the 503 regulations. In addition to these specific goals and objectives the City has improved its overall compliance through exceeding the required volatile solids reductions, maintaining control of nutrient and metals, and continuously keeping pathogens below the level required of Class B biosolids. In addition, each land application field met all of the regulatory restriction.

In the Relations with Interested Parties area, the City established goals and objectives to improve outreach to enhance public acceptance of biosolids management and to

improve clients' understanding of nutrients in land application of biosolids. The goals and objectives related to this outcome include:

- Solicit interested party input in biosolids management.
- Improve biosolids EMS webpage and track public usage.
- Communicate biosolids product quality data on web page and update annually.
- Create and distribute Biosolids Management Program Performance Report (BMPPR) to interested parties.
- Provide product quality statement to property owners who participate in land application.

The City identified 80 new interested parties and contacted property owners whose land is adjacent to newly proposed land application sites. The biosolids web page has been improved and the number of hits, although low, is being tracked. The communication of biosolids product quality on the web page has not been accomplished at present. The distribution of the most current BMPPR to interested parties was accomplished in April 2005. The distribution of product quality statements to property owners was not accomplished in 2005, but reestablished as an objective for 2006 as distribution of product value statements to property owners. In addition to the above goals and objectives the City continues an aggressive and proactive public relations program through website information, letters, newsletters, and county fairs, agricultural expositions, and farm show participation.

In the Quality Biosolids Management Practices area, the City established goals and objectives for evaluating options and methods to obtain Class A biosolids. Another quality biosolids management practice goal was established associated with management of nutrients in land application. The goals and objectives established to improve management practices include:

- Review of existing operations that produce Class A biosolids.
- Prepare cost comparison analysis for producing Class A verses Class B biosolids.
- Optimize application rates for property owners actively receiving biosolids.

As part of the design study for a constructing a completely new wastewater treatment plant the City evaluated the options available for processing biosolids. It was determined to design and build a "cannibal" wastewater treatment process that will produce a minimum amount of aerobically stabilized Class B biosolids. An improved land application tracking system was developed to increase the accuracy of land application rates. In addition to the above goals the City has improved the quality of biosolids through a complete revision of its operational standard operating procedures, increased

internal communication and awareness of staff relative to biosolids, maintaining high operational readiness of belt filter presses, biosolids dewatering optimization through polymer dosage controls, improving the fabric weave on the belt filters, and installation of automatic temperature controls on the digesters.

The City is continuing its efforts in these four major areas and has established four goals with 9 objectives for 2006/2007.

## **CONCLUSIONS AND RECOMMENDATIONS**

The results of the verification audit are positive. The review and approval of the corrective action plans for each of the non-conformances identified during the verification audit will soon be completed, and it is the recommendation of the audit team that the City of Albany Wastewater Biosolid's EMS receive "Verification" status.

As was mentioned previously, an EMS is a continuous improvement process, and verification is not the end -- it is the beginning. 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.

## **Attachment 1**

### **Documents and Other Object Evidence Reviewed During the Desk Audit/Operational Readiness Review And Verification Audit**

#### Element 1. Documentation of EMS for Biosolids

- City of Albany Biosolids Environmental Management System Manual – April 2006.
- EMS Element 1 containing Biosolids Management Policy and Code of Good Practice.
- EMS Manual signed by Michael Wolski, Albany Wastewater Treatment Plant Operations Manager.
- Interviews with Diane Taniguchi-Dennis, Public Works Director and Michael Wolski, Albany Wastewater Treatment Plant Operations Manager.
- EMS Manual Elements 6, 9, and 11 addressing public participation, communications and emergency preparedness and response.
- Biosolids Management Plan – January 2006.
- Table 3.1 containing all critical control points and cross references.
- Table 1.1 EMS Organization by Categories.

#### Element 2. Biosolids Management Policy

- EMS Element 2: Biosolids Management Policy repeats Code of Good Practice.
- EMS Biosolids Manual – Element 8 Item 7 addresses communications to contractors if ever used.
- Abbreviated Policy Statement on letterhead template.
- Albany Mayor approval of Biosolids EMS program – February 2004.
- Policy Statement indicates maximum beneficial use of biosolids.
- Verified employees received awareness training through interviews.
- EMS Element 8 procedure 7 addresses contractor requirements (no contractors at present.)

#### Element 3. Critical Control Points

- Reviewed EMS Element 3 – Critical Control Points.
- EMS Table 3.1 Biosolids Critical Control Points - Operations
- Interviews with Chris Bailey, Scott White, Ben Phelps, Herb Hoffer, Mike Wolski and operations staff.
- Comparison of City of Albany Critical Control Points with those contained in Appendix F.
- Reviewed new Biosolids Management Plan – January 2006 (date stamped March 22, 2006)

- Field review of wastewater treatment plant facilities.
- Spot check operations controls in SOPs.

#### Element 4. Legal and Other Requirements

- EMS Element 4: Legal and Other Requirements
- EMS Table 3.1 Biosolids Critical Control Points – Operations (legal requirements)
- Interviews with Herb Hoffer, Ben Phelps, Chris Bailey, and Scott White.
- Interviews with pretreatment staff: Terri Ayres, Bill Palma y Mesa, and Mark Humphrey.
- Comparison of City of Albany’s Critical Control Points with those contained in Appendix F.
- Appendix 4-A List of legal and other requirements.
- NPDES required Biosolids Management Plan – January 2006 (date stamped March 22, 2006).
- DEQ Notice of Pretreatment Program Noncompliance: ENF-WQ/M-04-143 dated August 6, 2004.
- Update on Albany’s Response to 2004 Pretreatment Audit Report Items by DEQ – February 2, 2006.
- 2005 DEQ Annual Pretreatment Report Review – 2/27/06.
- Interview with Bruce A. Hammon, DEQ Pretreatment Program – Bend, OR
- Interview with Bill Perry – NPDES program – Eugene, OR
- Interview with Paul Kennedy – Natural Resources Specialist – Water Quality and Regional Biosolids Coordinator – Western Region DEQ – Roseburg, OR
- Interview with Judy Johndohl – State Director of Biosolids for DEQ.

#### 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 - 2005.
- Biosolids EMS – Goal and Objectives Action plan Table – 2006-2007.
- Reviewed biosolids management team minutes for 2005/2006.
- Complete evaluation of progress on Goals and Objectives for 2005.
- Assessment of outcomes in the four critical areas.
- Access and evaluation of website.
- Interviews with Chris Bailey, Scott White, Ben Phelps, Herb Hoffer, Mike Wolski and operations staff.
- Letter to interested parties requesting input into goals and objectives – April 5, 2006.

#### Element 6. Public Participation in Planning

- EMS Element 6: Public Participation in Planning.
- Appendix 6-A – City of Albany Biosolids Public Participation and Outreach Plan (updated February 2006)

- Interviews with Chris Bailey, Scott White, and Herb Hoffer.
- Interview with Bruce A. Hammon, DEQ Pretreatment Program – Bend, OR
- Interview with Bill Perry – NPDES program – Eugene, OR
- Interview with Paul Kennedy – Natural Resources Specialist – Water Quality and Regional Biosolids Coordinator – Western Region DEQ – Roseburg, OR.
- Interview with Judy Johndohl, State Director of Biosolids for DEQ.
- Letter of Invitation dated February 21, 2006 addressed to interested parties (over 80) to attend third party EMS verification audit.
- Biosolids Management Program Performance Report for 2004-2005.
- Albany Biosolids Website <http://www.cityofalbany.net/publicworks/biosolids>)
- The City of Albany’s Biosolids Quarterly – Spring 2006 edition (newsletter)
- Active participation in outside organizations such as the Northwest Biosolids Management Association’s Continuous Improvement Systems Committee and the Statewide Association of Clean Water Agencies’ Biosolids Committee and Pretreatment Committee.

#### Element 7. Roles and Responsibilities

- EMS Element 7: Roles and Responsibilities.
- Table 7.1 – Biosolids EMS Responsibilities.
- Interviews with Chris Bailey, Scott White, Ben Phelps, and Herb Hoffer.
- Reviewed specific budgets items for technical and financial resources required for biosolids.
- Contractors are limited to construction activities and do not participate in any value chain activities.

#### Element 8. Training

- EMS Element 8: Training.
- Interviews with Chris Bailey, Scott White, and Herb Hoffer.
- Interviews with Operations staff – Ben Phelps, Heather Slocum, Lenee Casteel, Jim Harry, and David Nordman.
- Attendance list for original EMS training – October 28, 2004.
- EMS annual awareness training.
- EMS refresher training for operations and environmental services – July 27, 2005.
- Verified Wastewater Operator Certifications for 2006.
- Reviewed “Training Database” used for tracking EMS training.
- Reviewed new employee EMS training records for 2005-2006.
- Audit observer – Tim Killingbeck from Water Environment Services.
- Checked training course material and attendance documentation.

#### Element 9. Communications

- EMS Element 9: Communication and Outreach.
- The City of Albany’s Biosolids Quarterly – Spring 2006 edition (newsletter).
- Reviewed “pretreatment news” Spring/Summer 2006 edition.

- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer.
- Interview with Bruce A. Hammon, DEQ Pretreatment Program – Bend, OR.
- Interview with Bill Perry – NPDES program – Eugene, OR.
- Interview with Paul Kennedy – Natural Resources Specialist – Water Quality and Regional Biosolids Coordinator – Western Region DEQ – Roseburg, OR.
- Interview with Judy Johndohl, State Director of Biosolids for DEQ.
- EMS Element 9 procedure 8 identifies acknowledgement of complaints within two days and follow-up within one week.
- EMS annual awareness training.
- Albany Biosolids Website (<http://www.cityofalbany.net/publicworks/biosolids>)
- Reviewed EMS contact log from October 2004 to April 2006.
- Reviewed Biosolids Management Program Performance Report (BMPPR) – April 2005, made available to the public.
- Notice in the Albany Democrat Herald.
- Audit observer – Tim Killingbeck from Water Environment Services.

#### Element 10. Operational Control of Critical Control Points

- EMS Element 10: Operational Control of Critical Control Points.
- Biosolids Management Plan – January 2006 (date stamped March 22, 2006).
- Audit observer – Mona LaPierre – Water Environment Services.
- Spot checked plant operations manual (Standard Operating Procedure for critical control points.)
- Spot checked biosolids procedures for transportation and land applications
- Use WEF’s MOP-11 as Manual of Good Practice for wastewater treatment plant operations.
- Interviews with Operations staff – Ben Phelps, Heather Slocum, Lenee Casteel, Jim Harry, and David Nordman.
- Interview biosolids transportation and land applications manager – Scott White.
- Interviews related to farm operations – Paul Kennedy – Natural Resources Specialist – Water Quality and Regional Biosolids Coordinator – Western Region DEQ – Roseburg, OR.
- Field verified implementation of SOPs related to belt filter press.
- Reviewed various documents related to the operating parameters, operation and maintenance and trouble shooting methods for controlling digester operations.
- Reviewed Hansen maintenance management system.

#### Element 11. Emergency Preparedness and Response

- EMS Element 11: Emergency Preparedness and Response.
- Standard Operating Procedure BS-007 “Spills of Digested Biosolids”.
- Interviewed Bill Palm y Mesa, Scott White, and Chris Bailey.
- Biosolids Contingency Plan – April 2006.
- Spill Emergency Simulation – December 19, 2005.
- Checked availability of cleanup equipment – vacuum trucks and spill kit availability in vans and wastewater treatment plant.

- Emergency Response Manual available in truck used for hauling biosolids.

#### Element 12. EMS Documentation and Document Control

- EMS Element 12: EMS Documentation, Document Control, and Record Keeping.
- Table 12.1 – Summary of Level 1 – 3 Documents and Records.
- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer.
- EMS Manual revisions.
- Environmental Services Standard Operating Procedures.
- Biosolids Standard Operating Procedures.
- Operations Standard Operating Procedures.
- Laboratory Standard Operating Procedures.
- Operations – “SOP implementation and review procedure.”
- Reviewed EMS manual’s revisions records and dates.
- Records retention requirements.

#### Element 13. Monitoring and Measurement

- EMS Element 13: Monitoring and Measurement.
- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer.
- Interviews with Operations staff – Ben Phelps, Heather Slocum, Lenee Casteel, Jim Harry, and David Nordman.
- Audit observer – Mona LaPierre – Water Environment Services.
- Reviewed monitoring and measurement requirements in SOPs for plant operations.
- Reviewed monitoring and measurement requirements in SOPs for land application.
- Goals Action Plan used for tracking goals and objectives.
- Operational logs for temperature control of digesters – 30 to 40 records entered manually and flow recorded automatically.
- Biosolids Management Plan – January 2006 (date stamped March 22, 2006).
- Land application system for controlling biosolids application rates.
- Records contained in annual reports.
- Field verified implementation of SOPs related to belt filter press.

#### Element 14. Nonconformances: Preventive and Corrective Action

- EMS Element 14: Nonconformance: Preventive and Corrective Action.
- Appendix 14-A: Sample Corrective Action Form.
- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer, and Mike Wolski.
- Biosolids EMS Audit Documents Binder.
- Reviewed Corrective Action Work Orders.
- Reviewed “Corrective Action Tracker.”
- Reviewed the required corrective action forms those findings identified during the EMS desk audit and operational readiness review.
- Reviewed signoff sheets for corrective actions completed.

#### Element 15. Periodic Biosolids Program and EMS Performance Report

- EMS Element 15: Performance Report.
- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer.
- Audit observer – Mona LaPierre – Water Environment Services.
- Biosolids Management Program Performance Report (BMPPR) – April 2005.
- No other voluntary participation programs.
- Available to the public on website and mailed to all interested parties.

#### Element 16. Internal EMS Audit

- EMS Element 16: Internal EMS Audit.
- Interviews with Chris Bailey, Scott White, Ben Phelps and Herb Hoffer.
- Reviewed EMS completed checklists for internal audit conducted from May 23 to May 27, 2005, contained in excel spreadsheet.
- Biosolids Internal Audit Report for Audit conducted May 23-27, 2005.
- Biosolids EMS 2005 internal audit results summarized in corrective action plan “tracker” reviewed December 2, 2005.
- Biosolids EMS audit document for 2005 internal audit transmitted to Director of Public Works by email on June 5, 2005.

#### Element 17. Periodic Management Review of Performance

- EMS Element 17: Periodic Management Review of Performance.
- Interviews with Diane Taniguchi-Dennis, Public Works Director and Michael Wolski, Albany Wastewater Treatment Plant Operations Manager.
- Management Review meeting of April 25, 2005 held with Diane Taniguchi-Dennis, Michael Wolski, Jeff Crowther, and Chris Bailey.
- Reviewed NBP Documents folder.
- Reviewed extensive list of items discussed in memo “Biosolids EMS Management Review dated April 25, 2005.
- Reviewed outcomes and action items contained in memo “Biosolids EMS Management Review” dated April 29, 2005.

## **Attachment 2**

### **Detailed Findings Resulting From the Desk Audit/Operational Readiness Review**

#### Observations

- Item 1.6 – The legal and other requirements element presents a table of general broad regulations in Appendix 4-A. The information given does clearly define what specific standards, limits, reports, records, etc. the City must meet in order to be in compliance.
- Item 3.4 – Not all of the Operational Controls described in Table 3.1 – Critical Control Points accurately describe “operational controls” for example within the truck loading critical control point “hauling” is defined as an operational control, and within “transportation routes” “spills” during transportation is identified as a control.
- Item 3.5 – EMS Element 3 does not address the requirement to provide notification of the assigned third party verification auditor when changes in the biosolids value chain or critical control points are made.
- Item 4.2 – Appendix 4-A presents a general list, which identifies broad sweeping regulations without reference to how they apply to the City, or what exactly is required. There is no specific list of detailed requirements referenced, which the City must follow; such as NPDES pretreatment program specifics, Biosolids Management Plan reporting and record keeping requirements, monitoring and measurements and application rates, etc.
- Item 5.1 – EMS Element 5 Procedure 2 indicates that Goals and Objectives are reviewed no less than quarterly at regular Biosolids EMS Team meetings. There was no objective evidence available for the July – September 2005 quarterly meeting.
- Item 5.5 – Not all of the Goal and Objectives contained in Table 5.1 were explicitly time bound.
- Item 5.7 – The “Biosolids EMS Goals and Objectives Action Plan” is not addressed in the procedure of EMS Element 5.
- Item 5.7 – The Biosolids EMS Goals and Objectives Action Plan does not fully capture improvement activities to achieve program goals and objectives, nor does it adequately address schedules and milestones.
- Item 6.2 – Element 6 procedure does not address the method for notifying interested parties about the independent third party audit nor does it include a discussion of approaches for observing the audit.

- Item 6.4 – A meaningful opportunity for interested parties to express views and perspectives relative to biosolids management activities is provided through contacting adjacent property owners when considering new land application sites. This approach is not included in the EMS Element 6 procedure.
- Item 9.3 – The EMS-related information section in Element 9 does not address how applicable legal and other requirements will be communicated to the public.
- Item 10.1 – The operational controls for land application of biosolids do not presently take into consideration the existing amount of nitrogen contained in “new” fields scheduled to have biosolids applied.
- Item 10.1 – The operational controls for land application base the land application rates on the distance traveled by the spreader. The distances are calculated in hundreds of a mile and the vehicle odometer reads in tens of a mile. Errors in interpolation of the odometer reading could result in variations of land application rates of up to 25%.
- Item 10.1 – The Standard Operating Procedures (SOPs) listed in Table 3-1 are not the latest versions. Additionally many of the SOPs that appear in the SOP binder book in the control room are not current.
- Item 10.1 – Several of the operational SOPs developed for the critical control points associated with biosolids production in the treatment plant value chain did not completely address the actual process operations that are conducted for the critical control points, for example operation of the manually cleaned bar screens, the dissolved air floatation thickeners, and the secondary treatment (aeration basins and secondary clarifiers).
- Item 10.2 – Specific regulatory requirements are not identified in the SOP for primary digester operation.
- Item 12.1 – Table 12.1 does not present the specific retention times required for the maintenance of the listed documents and records.
- Item 12.2 – The procedure for creation of EMS procedures is not included in the EMS Manual and does not address an approval process.
- Item 12.2 – the Tables and Appendices contained in the EMS Manual do not have version numbers, effective dates or approval signatures.
- Item 13.1 – The legally necessary monitoring parameters and frequency of sampling the primary digesters to attain class B biosolids is not presented in Table 13-1. Not all other monitoring parameters and frequencies were clearly presented.

- Item 13.1 – EMS Element 13 Procedure 4 indicates all instruments will be calibrated and calibration records will be maintained with laboratory protocols. It is not clear what instruments are included in the calibration requirements (flow measurement devices?, operational analyses instruments?, in line instruments?, depth indicators? truck odometer?, etc.) There is no list provided along with the frequency of calibrations.
- Item 14.1 – EMS Element 14 does not include noncompliance with regulatory requirements as a nonconformance, which must have a preventive and corrective action.
- Item 14.3 – Neither the procedure nor the corrective action form contain a requirement to document the necessary corrective actions taken to prevent a recurrence. (Note: the preventive action mentioned in EMS Element 14 procedure 5 is for the maintenance management system – not the EMS.)
- Item 14.4 – The procedure and formal corrective action plans do not presently address the root causes or preventive actions.
- Item 14.5 – The explanation of how the “Environmental Audit Corrective Action Form” is developed and used is not described in EMS element 14.
- Item 14.5 – The required resources are not presently addressed in EMS Element 14 procedure or the Corrective Action Plan.
- Item 14.5 – The procedure does not address what actions might be taken if corrective actions do not meet proposed completion date targets.
- Item 14.6 – The procedure does not identify who verifies that the corrective actions have been implemented and/or closed. One of the corrective actions taken as a result of the internal audit was closed but not actually corrected.
- Item 14.6 – The “Biosolids EMS 2005 Internal Audit Corrective Action Plan” has been developed, however there has been no procedure prepared to explain how it is developed or its use.
- Item 16.1 – There is no objective evidence available concerning EMS Audit Team organization and meeting.
- Item 16.1 – The methodology of the internal audits is not fully described and the “Biosolids EMS Internal Audit Questionnaire” is not referenced.
- Item 16.3 – In the EMS Element 16 there is no identification of the qualification or training required for EMS auditors.
- Item 16.3 – The lead auditor for the 2005 internal audit was not identified.

- Item 17.1 – EMS Element 17 does not provide a specific frequency for EMS Team meetings.
- Item 17.1 – The management review of April 25, 2005 did not include the results of the internal audit.

### **Opportunities for Improvement**

- Item 2 – Consider having a document in the EMS files demonstrating the Director of Public Works has adopted the EMS Policy Statement.
- Item 2.1 – Consider including “public involvement” in the compact Policy Statement that summarizes the Code of Good Practices.
- Item 5.7 – Not all of the goals and objectives for 2005 were achieved.
- Item 8 – It is unclear what certification is required for biosolids land application, identified in procedure 1(a).
- Item 9.3 – The “Biosolids Public Participation and Outreach Plan” is not dated.
- Item 17 – The contents of the Quarterly Summary Reports addressed in EMS Element 17 Procedure 1(D) are not defined.

## Attachment 3

### 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.