NATIONAL BIOSOLIDS PARTNERSHIP AUDIT REPORT

Alexandria Sanitation Authority
Alexandria, Virginia

Audit conducted by

NSF-International Strategic Registrations

William R. Hancuff, Lead Auditor
Jack McVaugh, Auditor

References:
National Biosolids Partnership (NBP) ***EMS Elements***
NBP ***Third Party Verification Auditor Guidance – November 2001***
(Latest Revision August 2007)
NBP ***Code of Good Practice***
Alexandria Sanitation Authority EMS Manual
(Core Documents – Various dates)

Final Report – April 29, 2008
Revision 1

INTRODUCTION

The purpose of the Biosolids Environmental Management System (EMS) Third Party Verification audit is to verify the Alexandria Sanitation Authority (ASA) Environmental Management System (EMS), Alexandria, Virginia conforms 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 the ASA 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 EMS Elements, the Code of Good Practice and the EMS program objectives.

RECOMMENDATION

The results of the ASA verification audit and review of their corrective action plans and implementation status are positive, and it is the recommendation of the audit team that the Alexandria Sanitation Authority Biosolids Environmental Management System (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 ASA Wastewater Treatment Facility's Biosolids Environmental Management System. The verification began with a documentation desk audit and on-site readiness review (ORR) conducted from 17 December to 20 December 2007 with the results presented to the Authority on 20 December 2007. The process continued with an on-site verification audit from 26 February to 28 February 2008. The on-site audit team consisted of Dr. William R. Hancuff, Lead Auditor and Jack McVaugh, Auditor.

The physical biosolids facilities included in the audit and visited during the operational readiness review and verification audit included the ASA Wastewater Treatment Facility and two land application sites in Essex County, Virginia.

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

General Manager, ASA

Paul A. Carbary	Director of Green Fields
George Floyd	Environmental Programs Coordinator – Green Fields
Cindy Galloway	Pretreatment Coordinator

Gayle Moomaw	Engineering Assistant
Jim Sizemore	Environmental Programs Coordinator – Clean Rivers
Maureen O'Shaughnessy	Director of Clean Rivers
Cheryl St. Amant	Director Technical Services
Jerry Barrett	Training Coordinator
Joel Gregory	L-Building Team Leader
Harold T. Lee	Team Leader
Ricky Everette	Shift Leader
David Johnson	Shift Leader
Roger Wesley	Operations Technician
Dana Disney	Operations Technician
Rob Holmes	Operations Technician
Lee Hymes	Operations Technician
Ronald Jackson	Operations Technician
Debra Mott	Operations Technician
Syed Latifi	Process Technician
Sean Clink	Process Technician
Florante Santos	Information Technology Manager
Neil Zahradka	Director of Land Application, Virginia DEQ – Central Office – Richmond, VA
Sharon Mack	Environmental Specialist, Virginia DEQ – Northern Virginia Regional Office
Steve McMahon	Regional – Senior Operations Manager, Synagro
Allen Guilliams	Senior Operations Manager, Synagro
Kelly Love	Technical Services Director, Synagro
Chris Sylva	Technical Services Manager, Synagro
Latane Moore	Field Supervisor, R & R Ag Services (Synagro Contr.)
Carl R. Burton	Field Inspector, Maryland Environmental Services

DOCUMENTATION REVIEW

Document review was conducted in two parts, the desk audit/on-site readiness review audit and the verification audit. During each of these activities various documents were reviewed to verify conformance with the National Biosolids Partnership (NBP) EMS Elements using the NBP Third Party Verification Auditor Guidance. Additionally interviews were conducted with various personnel to obtain supplemental objective evidence on the effectiveness of the implementation of the EMS. Attachment 1 summarizes the documents and other objective evidence associated with each element that was considered during the above mentioned audits.

DESK AUDIT/ON-SITE READINESS REVIEW

A complete document review was performed as a desk audit. The principal focus was on the ASA EMS Element procedures of various effective dates. The on-site readiness review (ORR) involved assessment of supplemental information such as cross referenced

standard operating procedures, management review records, background reference information, summary of goals and objectives related to outcomes, and various public outreach and communication materials. It also entailed a survey of one of the biosolids land application sites.

The results of the desk audit/ORR provided a number of observations and opportunities for improvement. This initial effort resulted in 26 observations, 17 opportunities for improvement, and 6 positive findings. Detailed results from the desk audit/ORR are provided in Attachment 2.

Many of the observations identified during the desk audit/ORR were addressed to varying degrees by the time of the verification audit. Significant improvement in the EMS was made as a result of these efforts.

VERIFICATION AUDIT FINDINGS

The verification audit covered all elements of the standard in considerably greater detail than the desk audit/ORR. The verification audit included review of the latest versions of the ASA element procedures and employed the most recent version of the NBP Third Party Verification Auditor Guidance dated August 2007. The verification audit found, 1 major non-conformance (for which the corrective action was implemented before recommendation for verification), 18 minor non-conformances (all of which had approved corrective action plans prepared and many of which had corrective actions fully implemented before recommendation for verification), 20 opportunities for improvement, and 9 commendations or positive observations.

The following is a review of the positive observations made during the verification audit. Major non-conformances, Minor non-conformances and opportunities for improvement follow and are listed by item number, which correspond to the Element minimum conformance requirement, in the sequence of the NBP standard elements.

Positive Observations

The ASA management and all plant personnel involved in the biosolids environmental management system development should be recognized for their outstanding achievements, and the exceptional features of their Biosolids EMS. The following is a summary of those positive items observed during the desk/ORR and verification audits.

Commendations:

- Document 4.2 - List of Legal and Other Requirements provides very useful and user-friendly information by summarizing applicable requirements from permits, regulations and other external documents and concisely describing specific method(s) used by ASA for compliance.
- The Exceptional Quality (EQ) Class A biosolids has excellent visual characteristics and exceeds any other biosolids seen to date. The aesthetic value is outstanding.

- The organization makes good use of its Corrective Action Notice (CAN) process, including using CANs when operating parameters fall outside specified control limits.
- The ASA Biosolids Management Program Performance Report for 2005-2006, Vol. 1, No. 1, Feb 2007, is a high quality, clearly written and informative document.
- The use of the straining press removes virtually all visual contaminants resulting in a exceptionally clean final product.
- ASA makes excellent use of contracted land application inspection services going above and beyond the norm to ensure total regulatory compliance.
- The authority is provided excellent support from their land application contractor, who clearly represents the interests of ASA very well.
- The format and general content of ASA's critical control point "Operational Guidelines" could serve as a model for other agencies interested in establishing SOPs for their EMS.
- The internal audit report for 2007 is very well written.

And finally, the hard work and dedication of the EMS Team must be acknowledged. While attainment of the EMS verification goal is obviously a team effort the guidance and direction provided by the Coordinator of Environmental Programs, George Floyd, to ensure accomplishment of this goal must be recognized. The encouragement and active participation of the Director of Green Fields, Paul A. Carbary, and the direct involvement since the outset of the General Manager, Karen L. Pallansch, has ensured the success of this program.

Major Nonconformance

- Requirement 5.7 – New goals/objectives have recently been updated in response to a nonconformance identified in the desk audit/ORR. However, there is no action plan identifying the specific tasks or improvement activities to achieve program goals and objectives. Additionally, there are no schedules, milestones, resources, and responsibilities for achieving the program goals and objectives identified. (Corrected before recommendation for verification.)

Minor Nonconformances

- Requirement 1.2 – There was no objective evidence available to demonstrate that the Biosolids EMS Manual (ASA's Core Documents) have been approved "by a level of the organization's management with the authority to commit people and resources to biosolids management activities."

- Requirement 1.7 – The contracts with Synagro and Maryland Environmental Services do not specifically address all of the EMS elements' minimum conformance requirements for contractors, namely items 7.4, 8.4, 9.4, 10.4, 11.4, 12.4, and 13.3. While some of these have been include in service agreements not all have been addressed.

- Requirement 2.2 – There was no objective evidence available to demonstrate that ASA's Biosolids Policy Statement had been communicated in an effective way to employees and contractors.

- Requirement 4.2 – While Doc 4.2 provides an excellent presentation of many applicable regulations, there is no specific tie-in to the land application regulations as presented in the Synagro operation and maintenance manual, which addresses DEQ land application permit details, biosolids reporting and record keeping requirements, land application monitoring and measurements, application rates, set backs, etc. Also VPDES pretreatment program specifics are not yet fully captured in Doc 4.2.

- Requirement 6.5 – The procedure described in Doc 5.1 does not adequately present all of the public participation activities used by ASA, such as the Virginia Biosolids Council and the Virginia Biosolids Expert Panel; additionally there is inadequate description of how the public input is captured from each of the identified outreach programs, and how it might be used in planning.

- Requirement of Element 8 – Document 8.1 – The training procedure includes a list of training activities that have not yet been performed and may not actually be included as part of the intended training program for all employees. Additionally, the procedure does not clearly reference a specific biosolids emergency preparedness and response syllabus.

- Requirement 10.1 – Doc #10.1 does not address the fact that Operational Guidelines are used for operational controls of each critical control point. There is no mention in this procedure of the inclusion of legal and other requirements in the Operational Guidelines. Additionally the procedure does not indicate how Standard Operation Procedures (SOPs) are used.

- Requirement 10.5 – Although required by ASA, a contractor has not developed an operational control procedure for odor control over and above those provisions in the contractor's O & M Manual.

- Requirement 12.2 – There was no provision in Document # 12.1 for the organization's Biosolids Management Program documents to be kept up to date through periodic review, and revision (when applicable).

- Requirement 12.2 – Procedure 3.1, dated 7/10/06 does not contain a version number, as required by requirement 12 C of the standard and by ASA's Document # 12.1. Not all documents were reviewed during this audit therefore other documents that may have similar shortcomings were not observed.

- Requirement 12.3 – There was no evidence in ASA's core documents that ASA has a process to ensure that records are available and can be easily located and are retained for a specified period of time.

- Requirement 13.1 – The procedure Doc 13.1 does not address and reference the legal and other requirement that must be monitored and measured for compliance. Doc 13.2 does not distinguish between legally required monitoring parameters and operationally required monitoring parameters.

- Requirement 13.1 – The procedure Doc 13.1 does not adequately address the details of a tracking system to follow progress made on Goals and Objectives, and included in reports made at monthly EMS team meetings.

- Requirement 16.1 – The internal audit procedures do not ensure that the internal audit program covers activities performed by contractors.

- Requirement 16.3 – Section 16.1.5 of Doc 16.1 indicates ASA will send its internal audit team to the NBP's Lead Auditor Training Program. One of the three internal auditors has not received this training. The qualification of auditors is not adequately defined.

- Requirement 16.3 – The audit checklist developed for the internal audit does not address all of the minimum conformance requirements contained in the auditor guidance.

- Requirement 16.3 – Section 16.1.6 of Doc 16.1 does not adequately address how ASA intends to conduct internal audits and confuses internal and interim audit requirements.

- Requirement 17.2 – There was no objective evidence available to demonstrate that scope for review, findings, evaluations, follow-up actions, changes to policies, plans, practices and other EMS elements resulting from the Management Review were documented according to the requirements of Document # 17.1.

Opportunities for Improvement

- Requirement 1.1 – Clarify in Document 1.1 who the members of the Biosolids EMS team are and who the members of the ASA leadership team are.

- Requirement 1.3 – Doc 1.1 does not explain that an EMS manual (core documents) exists and that procedures are established which address each of the elements.

- Requirement 1.7 – In Doc 1.1 the scope covered in section 1.2 does not generally address roles and responsibilities of each contractor.

- Requirement 1.7 – Doc 1.1 the procedure covered in section 1.4 does not address the service agreements or contracts that define the contractors' responsibilities in the EMS.

- Requirement 1.7 – The contract with Hopewell Wastewater Treatment Plant which is used as an emergency backup disposal option to land application does not address the requirements for contractors, namely items 7.4, 8.4, 9.4, 10.4, 11.4, 12.4, and 13.3.

- Requirement 3.2 – The actual or potential environmental impacts at each critical control point could be more fully developed and presented in Doc 3.2, as was done with the critical control points of the transport and biosolids management/end use in that document table.

- Requirement of Element 5 – Doc 5.3 – "Action Plan Template" is not labeled and its use is not referenced in the procedure of Doc 5.1.

- Requirement of Element 5 – Consider rewriting this procedure, and any related procedures/documents to reflect more accurately the approach that is used for developing and tracking goals and objectives.

- Requirements of Element 5 – Based on input from ASA staff, consider establishing goals/objectives for pretreatment requirements for Fats, Oils and Greases (FOG); Virginia Expert Panel goals; and alternative backup plans for biosolids disposal under emergency conditions.

- Requirement 5.6 – Clarify in the procedure described in Doc 5.1 that the five year facility strategic plan is not the same as the biosolids EMS goals and objectives but is used to review, update and establish new goals/objectives on an annual basis.

- Requirements of Element 6 – The list of methods used to obtain input from interested parities does not include the most recently used letter of solicitation. Additionally the Inquiry Log and the formal List of Interested Parties are not included in the list of references.

- Requirements of Element 6 – The procedure described in Doc 6.1 does not include all of the contractors, such as the Virginia Biosolids Council use in outreach programs.

- Requirements 6.1 and 9.1 – Although improved, ASA does not yet have a highly effective proactive public participation program and communication program to involve all interested parties in its biosolids management program and EMS planning process.

- Requirements of Element 9 – Consider streamlining this procedure.

- Requirement 9.4 – Synagro's approach to communication and reporting which addresses public communication was (according to their contact dated November 1, 2007) to be submitted within 60 days of contract execution. The contractor's submittal was returned for corrections. Therefore the contractors roles and responsibilities in the communications program are not presently defined.

- Requirement 10.2 – Although the major operations that have specific legal requirements have included relevant regulations in the ASA operational guidelines (OGs) not all OGs have been verified to include them.

- Requirement 12.2 – EMS document use could be facilitated by numbering lower level documentation, such as Operational Guidelines. A numbering convention could be used that would identify documents with respect to their level and place in the EMS.

- Requirements of Element 13 – The procedure Doc 13.1 does not reference Doc 13.2 – "ASA Performance Indicators, Monitor, Baseline, Targets, and Source Data."

- Requirements of Element 16 – Review the scope contained in section 16.1.2 of Doc 16.1 to ensure that it addresses specifically what ASA intends.

- Requirements of Element 16 – Review section 16.1.6 – Development of Audit Schedules in Doc 16.1 to ensure it reflects the needs of ASA.

The corrective action of the above major non-conformance has been implemented and found to be acceptable. For the minor non-conformances, ASA personnel prepared Work Plans for Corrective Actions and will implement corrective actions according to their EMS procedures to provide continual improvements to their biosolids program. All proposed corrective action work plans were found to be acceptable and final closure will be completed during the first interim audit. As a further measure to demonstrate continuous improvement the opportunities for improvement will be addressed to the maximum extent possible.

There have been significant improvements in the District's EMS over the past few months as observed by the lead auditor. This level of improvement will undoubtedly continue into the future.

ALEXANDRIA SANITATION AUTHORITY COMMENTS

ASA believes that both the Onsite Readiness Review and the Verification Audit were extremely beneficial. We concur with the findings included in the report. We have addressed the major non-conformance and developed a schedule to correct each of the minor non-conformances.

OUTCOMES MATTER

The ASA Biosolids Environmental Management System established three biosolids EMS goals and 13 objectives within those goals. The goals and objectives were developed by the Biosolids EMS coordinator and the EMS Team and consideration of potential public concerns. The ASA 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 component of the system to make progress towards accomplishing the overall goals. The ASA initially established goals in 2006 and reestablished new goals in 2008. The initial goals were established to a certain extent using Specific, Measurable, Achievable, Relevant, and Time Bound (SMART) criteria. All the initial goals and objectives were either attained or completed to the ASA desired level. The facility's performance relative to each of the above outcome groups is addressed below.

In the Environmental Performance outcome area, ASA established five related objectives within Goal 2, which was to exceed regulatory and historic biosolids quality parameters. The first objective was to complete work to correct pasteurization data capturing feature in SCADA. Since time/temperature is a critical in treatment system performance it is essential to have accurate reports on those variable. This objective serves to meet outcomes in the regulatory requirements and quality biosolids management practices as well. Correcting the pasteurization data capturing feature in SCADA was successfully completed June 1, 2006.

The second objective was to develop a routine sampling program to track pollutant levels in incoming sewage. In order to determine how the treatment system is performing it was determined to create influent and biosolids sampling requirements. This also served to meet two other outcome areas, namely; regulatory compliance and quality biosolids management practices. This objective was completed on March 31, 2007.

The third objective related to environmental performance was evaluation of heavy metals in biosolids reduction strategies. A new approach to metals concentration was developed from a mass balance perspective. This objective also met the outcome interests of regulatory compliance and quality biosolids management practices. This objective was completed on November 20, 2006.

The forth objective in this arena was the accurate quantification of volatile solids reduction (VSR) in digesters. VSR is a critical control parameter and essential in measuring performance. Providing the most accurate calculation of this parameter and surrounding information is critical. The staff performed a rigorous analysis of the methodology used in calculating VSR and developed recommendations for the best method to be used by ASA. This objective also meets some of the outcome needs of quality biosolids management practices and regulatory requirements. This objective was accomplished on December 31, 2006.

The fifth objective was participation in pathogen destruction research. There is continuing concern associated with potential pathogen re-growth after destruction. ASA participated in the Water Environment Research Foundation's research project on pathogens in biosolids. ASA conducted its own pathogen destruction research by developing its own "pathogen scan" for biosolids. This research was conducted in late 2006 and the results presented at the Water Environment Federation residuals conference in 2007. This also has benefits in the legal requirements outcome. The objective was completed on January 23, 2007.

In the Regulatory Compliance outcome area, ASA established five related objectives within Goal 2, which was to exceed regulatory and historic biosolids quality parameters. The first objective was to complete work to correct pasteurization data capturing feature in SCADA. Since time/temperature is a critical parameter in regulatory compliance it is critical to reliably produce reports on those variable. This objective serves to meet outcomes in the environmental performance and quality biosolids management practices as well. Correcting the pasteurization data capturing feature in SCADA was successfully completed June 1, 2006.

The second objective having a regulatory compliance component was to develop a routine sampling program to track pollutant levels in incoming sewage. In order to ensure that the pretreatment program was functioning within regulatory bounds it was determined to create influent and biosolids sampling requirements. This objective serves equally well in two other outcome areas, namely; environmental performance and quality biosolids management practices. This objective was completed on March 31, 2007.

The third objective related to regulatory compliance was evaluation of heavy metals in biosolids reduction strategies. Since the concentration of heavy metals is a critical component in legally determining exceptional quality biosolids improvements in this area increase the reliability of analytical data. A new approach to metals concentration was developed from a mass balance perspective. This objective also meets the outcome interests of quality biosolids management practices and environmental performance. This objective was completed on November 20, 2006.

The forth objective in the regulatory compliance arena was the accurate quantification of volatile solids reduction (VSR) in digesters. VSR is a requirement in both the federal and state biosolids regulations. Providing the most accurate calculation of this parameter and surrounding information is essential. The staff performed a rigorous analysis of the

methodology used in calculating VSR and developed recommendations for the best method to be used by ASA. This objective also meets some of the outcome needs of quality biosolids management practices and environmental performance. This objective was accomplished on December 31, 2006.

The fifth objective in the regulatory compliance outcome area was participation in pathogen destruction research. There is continuing concern associated with potential pathogen re-growth after destruction. ASA participated in the Water Environment Research Foundation's research project on pathogens in biosolids. ASA conducted its own pathogen destruction research by developing its own "pathogen scan" for biosolids. This research was conducted in late 2006 and the results presented at the Water Environment Federation residuals conference in 2007. This also has benefits in the environmental performance outcome. The objective was completed on January 23, 2007.

In the Relations with Interested Parties outcome area, ASA has established three objectives, one of which overlapped another outcome area.

The first two objectives were contained in Goal 1, which was to improve internal and external support for biosolids management program. An objective was established to develop biosolids material for the ASA website with ability to obtain feedback from potentially interested parties. ASA created biosolids EMS and overall biosolids program information and included it on the ASA website. An added feature on this page is a link to email the EMS coordinator with questions regarding biosolids or the biosolids EMS. This objective was completed on August 31, 2006.

The next objective was to develop a program for communicating ASA's biosolids management program to the public and provide a mechanism for public feedback leading to public participation. An information pamphlet was created with a feedback mechanism included. The pamphlet was provided to land application inspection staff for distribution to interested parties in the field. The pamphlet was also included on ASA's website for public availability. This objective was completed on March 1, 2007.

The third objective related to relations with interested parties is included in Goal 3 the development of additional beneficial reuse options, and more specifically the evaluation of local markets for biosolids products. This objective was based on general feedback from interested parties relating to potentially using the biosolids as a resource locally in Alexandria or nearby communities thus taking advantage of a beneficially useful product at home as opposed to rural counties. The first step in this objective involved ASA incorporating additional options into its biosolids contract that began January 2008. The additional options include creating a new biosolids product that can be marketed in an urban environment. The intermediate step objective was completed on 1 September 2007.

In the Quality Biosolids Management Practices outcomes area, ASA established six objectives, five of which have already been discussed in other outcomes areas. They are 1) to complete work to correct pasteurization data capturing feature in SCADA. 2) to develop a routine sampling program to track pollutant levels in incoming sewage. 3)

evaluation of heavy metals in biosolids reduction strategies. 4) accurate quantification of volatile solids reduction (VSR) in digesters. 5) participation in pathogen destruction research. The details of each of these objectives are discussed above in other outcome areas and all have been completed.

The last objective in this outcome area is related to the third goal of developing additional beneficial reuse options the first objective of which is to evaluate local markets for biosolids products. This third goal is long term and has been adopted as the primary goal of the next several years. Development of a new locally marketable biosolids product is the primary interest. The first step of hiring a contractor to develop the biosolids product has been accomplished.

CONCLUSIONS AND RECOMMENDATIONS

The results of the verification audit show the ASA has a strong Biosolids Environmental Management System. The NSF lead auditor reviewed and approved the implementation of the corrective action for the major nonconformance on April 28, 2008. The review and approval of the corrective action plans for each of the minor non-conformances identified during the verification audit were also made by the auditor. Therefore the “Verification” recommendation for the ASA Biosolids Environmental Management System (EMS), Alexandria, Virginia is made to the NBP. The full implementation of the corrective actions for the minor findings will be accomplished according to the schedule proposed in the corrective action work plans. It is expected that the opportunities for improvement will each be addressed although they do not require a formal closure.)

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.

Based on discussions between the Environmental Programs Coordinator (EMS Program Coordinator) and the third party auditor the following tentative interim audit schedule is proposed for the next four years:

Each interim audit will include a review of: the organization's progress toward goals and objectives; EMS outcomes (environmental performance; regulatory compliance; interested party relations; quality practices); actions taken to correct minor nonconformances; the management review process; corrective action requests and responses; and preventive actions. In addition to the above, the following elements will be audited according to the following tentative schedule:

Year 1 (third party) – Elements 5, 6, 9, 14, 16

Year 2 (internal or third party) – Elements 1, 10, 12, 13

Year 3 (third party) – Elements 3, 8, 15, 17

Year 4 (internal or third party) – Elements 2, 4, 7, 11

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

- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- 17 EMS Element (Core) documents, various version numbers and effective dates (Constituting ASA's "EMS Manual")
- Document # 1.1 – Documentation of EMS for Biosolids, version 03, 4/30/2007
- Document # 2.1 – Biosolids Management Policy, version 02, 9/1/06, containing ASA's Biosolids Policy Statement
- Document # 3.1 – Critical Control Points, version ?, 7/10/06
- Document # 3.2, List of Critical Control Points, version 5, 2/13/08
- Document # 4.2 – List of Applicable Legal and Other Requirements, version 2, 2/12/2008
- EMS Element 9 folder containing 8 PDF and 5 Word files on public participation and communication
- Document # 10.1 – Operational Control of Critical Control Points, version 04, 5/1/2007
- EMS Element 11 folder containing Document 11.1, Vers. 2, 9/1/06, Emergency Prep & Response and Emergency response SOP
- Document # 12.1 – Documentation, Document Control and Recordkeeping, version 05, 4/30/2007
- Operational Guideline, Post Application Management, Vers. 1, 9/1/06
- Synagro Operation and Maintenance Manual, April 2003
- Synagro Contract for Services, 11/1/07

Element 2. Biosolids Management Policy

- Document # 2.1 – Biosolids Management Policy, version 02, 9/1/06, containing ASA's Biosolids Policy Statement
- Alexsan.com website (http://www.alexsan.com/), Information Center, Biosolids Policy Statement
- Alexsan.com website (http://www.alexsan.com/), Information Center, Public Outreach, Communications and Quality Management Practices
- Interview with Karen L. Pallansch, General Manager, ASA
- Interview with Paul A. Carbary, Director of Green Fields

- Interview with George Floyd, Environmental Programs Coordinator - Green Fields

Element 3. Critical Control Points

- Interview with George Floyd, Environmental Programs Coordinator – Green Fields
- Document # 3.1 – Critical Control Points, version ?, 7/10/06
- Document # 3.2 – List of Critical Control Points, version 4, 1/27/2007
- Document # 3.2 – List of Critical Control Points, version 5, 2/13/08
- Solids Processing Schematic
- Interview with Joel Gregory, L-Building Team Leader
- Interview with Harold T. Lee, Team Leader
- Interview with Roger Wesley, Operations Technician
- Interview with Debra Mott, Operations Technician
- Interview with Sean Clink, Process Technician

Element 4. Legal and Other Requirements

- Interview with George Floyd, Environmental Programs Coordinator – Green Fields
- Interview with Cindy Galloway, Pretreatment Coordinator
- Interview with Jim Sizemore, Environmental Programs Coordinator – Clean Rivers
- Interview with Neil Zahradka, Director of Land Application, Virginia DEQ – Central Office – Richmond, VA
- Interview with Sharon Mack, Environmental Specialist, Virginia DEQ – Northern Virginia Regional Office
- Document # 4.1 – Tracking Legal and other requirements, version 03, 5/1/07
- Document # 4.2 – List of Applicable Legal and Other Requirements, version ?, 6/09/2006
- Document # 4.2 – List of Applicable Legal and Other Requirements, version 2, 2/12/2008
- Monthly Discharge Monitoring Reports for biosolids
- Annual Report to EPA Region III and Virginia DEQ
- Pretreatment inter-jurisdictional agreement with Fairfax County – Feb 15, 2000
- Pretreatment inter-jurisdictional agreement with Arlington County – Mar 29, 1994
- Grease Police brochure
- Alexandria Sewer Use Ordinance No. 4501
- Legal action log

Element 5. Goals and Objectives for Continual Improvement

- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields

- Document # 5.2 – Goals and Objectives, version 02, 9/1/2006
- Document # 5.2 – Goals and Objectives, version 05, 2/19/2008
- Document # 5.3 – Action Plan Template – EMS Goals and Objectives, version ?, undated
- Document # 5.5 – Action Plan Management, version 03, 10/5/2006

Element 6. Public Participation in Planning

- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- Alexsan.com website (http://www.alexsan.com/), At-a-glance, "Request for Public Input, We need your help to improve our program. Mail, call…"
- Plant tour log for 2006/2007
- http://www.alexsan.com/
- Public Notice of Intent to Obtain Biosolids EMS Audit

Element 7. Roles and Responsibilities

- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- Document # 7.1 – Roles and Responsibilities, version 03, 4/20/2007
- Document # 7.1 – Roles and Responsibilities, version 04, 2/13/2008
- Document # 7.2 – Roles and Responsibilities Table, version 05, 6/18/2007
- Synagro Operation and Maintenance Manual, April 2003
- Synagro Contract for Services, 11/1/07
- No lack of resources were noted throughout the audit.
- Interview with Allen Guilliams, Senior Opreations Manager, Synagro
- Interview with Kelly Love, Technical Services Director, Synagro
- Interview with Chris Sylva, Technical Services Manager, Synagro
- Interview with Latane Moore, Field Supervisor, R & R Ag Services (Synagro Contr)
- Interview with Carl R. Burton, Field Inspector, Maryland Environmental Services

Element 8. Training

- Interview with Jerry Barrett, Training Coordinator
- Document # 8.1 – Training, version 02, 9/1/2006
- Document # 8.2 – EMS Training, version ?, 9/30/2006
- Element 8.2 – List of Biosolids EMS Training courses
- Syllabus for Biosolids EMS Awareness Training (BEMS 101)
- Syllabus for Biosolids Skills Training (BEMS 201)
- Syllabus for Biosolids Skills Reaudit (BEMS 202)
- Syllabus for Biosolids EMS Auditor Workshop (BEMS 401)
- Syllabus for Storm Water Awareness (SWPP 102)

- Abra Suite training tracker software – attendees at BEMS 101 and 201
- BEMS 101 – Power Point Slides
- Training records for BEMS 101 – July/August 2006
- Training records for BEMS 101 refresher – September 2007
- Training records for BEMS 401 internal auditing – April 2006
- Emergency Preparedness and Response (SAF 154) training records Aug-Oct 06
- Reviewed part 3 of section 9 of plant-wide EMP related to biosolids
- Interview with Joel Gregory, L-Building Team Leader
- Interview with Harold T. Lee, Team Leader
- Interview with Ricky Everette, Shift Leader
- Interview with David Johnson, Shift Leader
- Interview with Roger Wesley, Operations Technician
- Interview with Dana Disney, Operations Technician
- Interview with Rob Holmes, Operations Technician
- Interview with Lee Hymes, Operations Technician
- Interview with Ronald Jackson, Operations Technician
- Interview with Debra Mott, Operations Technician
- Interview with Syad Latifi, Process Technician
- Interview with Sean Clink, Process Technician
- Interview with Florante Santos, Information Technology Manager

Element 9. Communications

- Document # 9.1 – Communication, version 03, 4/30/2007
- Document # 9.2 – External Inquiry Response, version ?, 3/23/2006
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- Plant tour log for 2006/2007
- http://www.alexsan.com/
- ASA Advanced Waste Treatment Facility brochure
- Commonly Asked Questions about Biosolids Recycling and Land Application Brochure - 2001

Element 10. Operational Control of Critical Control Points

- Document # 10.1 – Operational Control of Critical Control Points, version 04, 5/1/2007
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- L Building biosolids operations
- L Building Control Room work stations
- Operational Guidelines for Sludge Prepasturization, version 2, 10/29/2007
- Thomas and Sons Farms land application site in Essex County, VA
- Operational Guidelines for Anaerobic Digestion, version final, 3/15/07

- Operational Guildlines for Application of Material (Stored and Direct) version ?, 12/17/07
- Operational Guidelines for Off Site Storage, version ?, 12/17/07
- Operation and Maintenance Manual for Strainpress Sludge Cleaner Units
- Operational Guilelines for Post Application Management, version ?, 9/1/2006
- Proposal for Biosolids Land Application Inspection Services – March – Dec 2007
- Synagro Operation and Maintenance Manual, April 2003
- MES - Biosolids Land Application Inspection Log Sheet
- Interview with Joel Gregory, L-Building Team Leader
- Interview with Harold T. Lee, Team Leader
- Interview with Ricky Everette, Shift Leader
- Interview with David Johnson, Shift Leader
- Interview with Roger Wesley, Operations Technician
- Interview with Dana Disney, Operations Technician
- Interview with Rob Holmes, Operations Technician
- Interview with Lee Hymes, Operations Technician
- Interview with Ronald Jackson, Operations Technician
- Interview with Debra Mott, Operations Technician
- Interview with Syad Latifi, Process Technician
- Interview with Sean Clink, Process Technician
- Interview with Allen Guilliams, Senior Opreations Manager, Synagro
- Interview with Kelly Love, Technical Services Director, Synagro
- Interview with Chris Sylva, Technical Services Manager, Synagro
- Interview with Latane Moore, Field Supervisor, R & R Ag Services (Synagro Contr)
- Interview with Carl R. Burton, Field Inspector, Maryland Environmental Services

Element 11. Emergency Preparedness and Response

- Document # 11.1 – Emergency Preparedness and Response, version 02, 9/1/2006
- Document # 11.2 – SOP Biosolids Emergency Response Procedure, Version 02, 8/14/06
- Document # 11.3 – SOP Spill Containment and Cleanup, Version 02, 9/1/2006
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- Synagro Operation and Maintenance Manual, Section J – Spill Control and Prevention – April 2003
- Spill containment kit – Building L
- Reviewed section 9 of plantwide EMP related to biosolids spills
- Interview with Jerry Barrett, Training Coordinator

Element 12. EMS Documentation and Document Control

- 17 EMS Element (Core) documents, various version numbers and effective dates (Constituting ASA's "EMS Manual")

- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- Document # 1.1 – Documentation of EMS for Biosolids, version 03, 4/30/2007
- Document # 12.1 – Documentation, Document Control and Recordkeeping, version 05, 4/30/2007
- Document # 12.2 – Documentation List, version 03, 10/1/2006
- Document # 12.3 – Document Control Log, version 02, 2/5/2007
- Enterprise-wide Management System, Biosolids EMS Folder
- Files stored in "Biosolids EMS" file drawer
- Notice and Necessary Information submittals dated 11/07, 12/07, 1/08
- Discharge Monitoring Report for Biosolids dated 2/15/08
- Synagro Operation and Maintenance Manual, April 2003

Element 13. Monitoring and Measurement

- Document # 13.1 – Monitoring and Measurement, version 02, 9/1/2006
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- L Building biosolids operations
- L Building Control Room work stations
- Operational Guidelines for Sludge Prepasturization, version 2, 10/29/2007
- Thomas and Sons Farms land application site in Essex County, VA
- Operational Guidelines for Anaerobic Digestion, version final, 3/15/07
- Operational Guidelines for Application of Material (Stored and Direct) version ?, 12/17/07
- Operational Guidelines for Off Site Storage, version ?, 12/17/07
- Operation and Maintenance Manual for Strainpress Sludge Cleaner Units
- Operational Guidelines for Post Application Management, version ?, 9/1/2006
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- Interview with Ronald Jackson, Operations Technician
- Interview with Debra Mott, Operations Technician
- Interview with Syad Latifi, Process Technician
- Interview with Sean Clink, Process Technician
- Interview with Allen Guilliams, Senior Opreations Manager, Synagro
- Interview with Kelly Love, Technical Services Director, Synagro
- Interview with Chris Sylva, Technical Services Manager, Synagro
- Interview with Latane Moore, Field Supervisor, R & R Ag Services (Synagro Contr)

- Interview with Carl R. Burton, Field Inspector, Maryland Environmental Services

Element 14. Nonconformances: Preventive and Corrective Action

- Document # 14.1 – Nonconformances: Preventive and Corrective Action, version 02, 9/1/2006
- Document # 14.1 – Nonconformances: Preventive and Corrective Action, version 04, 2/13/2008
- Document # 14.2 – Nonconformance Report Log, version 02, 9/1/2006
- Document # 14.3 – Corrective Action Work Plan Template, version 03, 12/8/2006
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields

Element 15. Periodic Biosolids Program and EMS Performance Report

- Document # 15.1 – Biosolids Management Program Performance Report, version 02, 9/1/2006
- Document # 15.1 – Biosolids Management Program Performance Report, version 03, 2/13/2008
- ASA – Biosolids Management Program Performance Report for 2005 – 2006
- ASA Biosolids Management Program Report 2006 -2007
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields

Element 16. Internal EMS Audit

- Document # 16.1 – Internal EMS Audit, version 02, 4/20/2007
- Document # 16.1 – Internal EMS Audit, version 03, 2/13/2008
- ASA Internal Audit Report – for audit conducted Jan 10 - 13, 2007
- ASA Internal Audit checklist – undated
- Summary of actions taken in response to ASA internal audit
- Work plans for corrective action for internal audit.
- Interview with Cindy Galloway, Pretreatment Coordinator
- Interview with Gayle Moomaw, Engineering Assistant
- Interview with Jim Sizemore, Environmental Programs Coordinator – Clean Rivers

Element 17. Periodic Management Review of Performance

- Interview with Karen L. Pallansch, General Manager, ASA
- Interview with Paul A. Carbary, Director of Green Fields
- Interview with George Floyd, Environmental Programs Coordinator - Green Fields
- ASA Biosolids Management Program Report 2006 -2007

- Document # 17.1 – Management Review, version 03, 4/30/2007
- ASA Strategic Plan – FY 2007 - 2010
- Annual Report, Management Review (description of 2 meetings held 12/13/07)
- Performance Measures for VSR, HRT, Methane gas/Natural Gas Equivalent, Odor, Workability, Nutrient, Dewatering Centrifuge Operating Cost

Attachment 2

Detailed Findings of the Desk Audit/Onsite Readiness Review

Positive Findings

The exceptional quality class A biosolids has excellent visual characteristics and exceeds any other biosolids seen to date. The aesthetic value is outstanding.

The use of the straining press to remove virtually all visual contaminants results in an incredibly clean final product.

ASA contracts for land application inspection services, which goes above and beyond the norm to ensure total regulatory compliance.

Green Fields obtains excellent support from its land application contractor, who clearly represents the interests of ASA in all ways.

The format and general content of ASA's critical control point "Operational Guidelines" could serve as a model for other agencies interested in establishing SOPs for their EMS.

The operations make excellent use of Nonconformance & Corrective Action Report Log for tracking the correction of operation and maintenance malfunctions.

The internal audit team prepared a well written internal audit report.

Observations

Item 1.7 – The contracts with Synagro and Maryland Environmental Services do not specifically address all of the EMS elements' minimum conformance requirements for contractors, namely items 7.4, 8.4, 9.4, 10.4, 11.4, 12.4, and 13.3. While some of these have been include in service agreements not all have been addressed. Also, the contract with Hopewell Wastewater Treatment Plant for emergency disposal services does not addressed these requirements. Future potential contracts for landfilling and composting would also need to be considered if they are completed.

Item 3.1 – The straining press sludge cleaner units are not identified as critical control points and the additional information contained in the table of Doc #3.2 are not addressed.

Item 4.2 – Doc 4.2 is identified as a list of applicable regulatory requirements, however, it is not a list but rather a presentation of general information, which identify broad sweeping regulations without reference to how they apply to the Alexandria biosolids operations, or what specifically is required. There is no specific summary list of the detailed regulatory and other requirements that the Authority must follow; for example, VPDES pretreatment program specifics, DEQ land application permit details, biosolids reporting and record keeping requirements, land application monitoring and measurements, application rates, set backs, etc.

Item 5.1 – Not all program goals and objectives are measurable.

Item 5.1 – Program goals and objectives are to be periodically reviewed. Step 5 of the SOP Doc # 5.5 – Action Plan Management indicates that a status report will of the Action Plan will be provided at each monthly EMS meeting. A review of monthly EMS team meetings showed that about half of the meetings were not held because of any attendance. To demonstrate commitment to the EMS program it is essential that the team members including management attend these meetings.

Item 5.3 – There is no objective evidence to demonstrate that input from interested parties was developed through proactive public participation and then used in the development of program goals and objectives.

Item 5.5 – Not all of the goals and objectives meet the SMART criteria.

Item 5.6 – The goals/objectives have not been updated on a regular basis consistent with continuous improvement. Although the procedure 5.1.4 in Doc 5.1 calls for the review and update of goals and objectives annually by April 30; no new goals/objectives have been developed in over a year and most of the goals/objectives have been completed. Presently there is inadequate continuous improvement in this area.

Item 5.7 – There is no formal tracking of progress toward accomplishing goals/objectives. Doc 5.4 – "Periodic Progress Reports" required to be completed monthly per Doc 5.5, are not used. Addtionally, the action plans do not contain milestones or interim schedules only completion dates.

Item 6.1 and Item 9.1 – ASA has not fully implemented a proactive public participation program and communication program to involve all interested parties in its biosolids management program and EMS planning process.

Item 6.4 – There is inadequate evidence to demonstrate that the general public have been provided "meaningful opportunities" to express views and perspectives relative to biosolids management activities.

Item 6.5 – The procedure described in Doc 5.1 does not adequately present all of the public participation activities used by ASA, such as the Virginia Biosolids Council and the Virginia Biosolids Expert Panel; additionally there is inadequate description of how the public input is captured from each of the identified outreach programs, and how it might be used in planning.

Item 7.1 – There is no summary of the roles and responsibilities of the EMS Team in Doc #7.1, nor a reference to the elements in which the team plays a role. Additionally, the schedule and potential agenda of EMS Team meetings is not clearly defined.

Item 10.2 – Not all of the ASA operational guidelines associated with each appropriate critical control point has the specific legal requirement identified in the procedure.

Element 10.1 – Doc #10.1 does not address the fact that Operational Guidelines are used for operational controls of each critical control point. There is no mention in this procedure of the inclusion of legal and other requirements in the Operational Guidelines, and it is not clear what system(s) are used for preventive and routine maintenance. Additionally the procedure does not indicate how Standard Operation Procedures (SOPs) are used

Item 12.2 – The program management documents are not currently marked with references to replaced or superceded version as contained in Doc 12.3 – "Document Control Log". Consider placing a revision log table at the end of each document containing the revision number, changes made to the document and the effective dates. Additionally, there is no cross reference in procedure Doc 12.1 to Doc 12.3.

Item 12.2 – There is an inconsistency in the title headings of the individual operational guidelines for each critical control point; not all are not marked with version numbers or effective dates, etc. Additionally, it is not clear what the purpose of the issue date is on some of these documents. In section 12.1.5 of Doc 12.1 it does not state that <u>all</u> EMS documents will follow the same format described, not just the <u>core</u> documents.

Item 13.1 – The procedure Doc 13.1 does not address and reference the legal and other requirement that must be monitored and measured for compliance.

Item 13.1 – The procedure Doc 13.1 does not adequately address the details of a tracking system to follow progress made on Goals and Objectives, and included in reports made at monthly EMS team meetings.

Item 14.5 – Doc 14.1 does not adequately address the development of formal corrective action plans for minor nonconformances identified in internal and external EMS audits.

Item 14..6 – Doc 14.2 – "Nonconformance Report Log" according to section 14.1.4.2 of Doc 14.1 is to be used for recording all nonconformances. The nonconformances associated with the internal audit do not appear on this log. Additionally there is no timeframe established for review and update of this log.

Item 14.6 – There is no formal procedure for tracking the status of corrective action plans to closure.

Item 14.6 – The corrective action program has not been fully implemented in that some of the findings of the internal audit conducted in January 2007 have not yet been corrected. A detailed review of each of the major and minor nonconformances must be made, and a formal written discussion of exactly why the finding is closed must be prepared.

Item 16.1 – The internal audit procedures does not ensure that the internal audit program covers activities performed by contractors.

Item 16.3 – Section 16.1.5 of Doc 16.1 indicates ASA will send its internal audit team to the NBP's Lead Auditor Training Program. One of the three internal auditors has not received this training.

Item 16.3 – The audit checklist developed for the internal audit does not address all of the minimum conformance requirements contained in the auditor guidance.

Item 16.3 – Section 16.1.6 of Doc 16.1 requires that an internal audit of all elements will be conducted 6 months prior to a third party verification audit. The last internal audit was in January 2007, which does not meet this criteria. As a side note this same section requires that an internal audit be conducted annually, which would be in January 2008.

Opportunities for Improvement

Item 1.1 – Clarify in Document 1.1 who the members of the Biosolids EMS team are and who the members of the ASA leadership team are.

Item 1.3 – Doc 1.1 does not explain that an EMS manual exists and that procedures are established which address each of the elements.

Item 1.7 – In Doc 1.1 the scope covered in section 1.2 does not generally address roles and responsibilities of each contractor.

Item 1.7 – Doc 1.1 the procedure covered in section 1.4 does not address the service agreements or contracts that define the contractors' responsibilities in the EMS.

Item 1.7 – Doc 1.1 does not specifically identify those activities in the biosolids value chain that are contracted.

Item 3.2 – The actual or potential environmental impacts at each critical control point could be more fully developed and presented in Doc 3.2, as was done with the critical control points of the transport and biosolids management/end use in that document table.

Item 5.6 – Clarify in the procedure described in Doc 5.1 that the five year facility strategic plan is not the same as the biosolids EMS goals and objectives but is used to review, update and establish new goals/objectives on an annual basis.

Element 5 – Doc 5.3 – "Action Plan Template" is not labeled and its use is not referenced in the procedure of Doc 5.1.

Element 5 – Consider rewriting this procedure, and any related procedures/documents to reflect more accurately the approach that is used for developing and tracking goals and objectives.

Element 5 – Based on input from ASA staff, consider establishing goals/objectives for pretreatment requirements for Fats, Oils and Greases (FOG); Virginia Expert Panel goals; and alternative backup plans for biosolids disposal under emergency conditions.

Element 6 – The procedure described in Doc 6.1 should not include contractors, except Virginia Biosolids Council, for use in outreach programs (unless the contractors play an active role in such programs). On the other hand, contractors have certain requirements for participating in external communications that should be specifically defined in their service agreements.

Element 13 – The procedure Doc 13.1 does not reference Doc 13.2 – "ASA Performance Indicators, Monitor, Baseline, Targets, and Source Data.

Element 14 – Clarify in section 14.1.1 Purpose of Doc 14.1 that preventive, and/or corrective actions are associated with legal, operational and maintenance corrective actions.

Element 14 – Clarify somewhere in Doc 14.1 that Doc 14.3 – "Corrective Action Work Plan Template" is used and what it is used for.

Element 14 – Doc 14.3 – “Corrective Action Work Plan Template” has miscellaneous information contained at the bottom that is not related to corrective actions but rather to SMART criteria.

Element 16 – Review the scope contained in section 16.1.2 of Doc 16.1 to ensure that it addresses specifically what ASA intends.

Element 16 – Review section 16.1.6 – Development of Audit Schedules in Doc 16.1 to ensure it reflects the needs of ASA.

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[1]. 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

[1] 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.