



THIRD PARTY VERIFICATION AUDITOR GUIDANCE

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CHAPTER 1: Introduction to NBP EMS Third Party Verification

1.1 Purpose of this Guidance

The National Biosolids Partnership (NBP) has developed a voluntary Environmental Management System (EMS) Program for the biosolids industry to improve the implementation and public acceptance of environmentally sound biosolids management practices. A key component of this program is the creation of an independent, third party EMS verification process to verify that the EMS of participating biosolids organizations satisfy the expectations and requirements established by the NBP EMS Program. The goal of this Guidance - the NBP EMS *Auditor Guidance* - is to ensure that the requirements and processes of NBP EMS third party verification are clearly established and communicated, and to ensure that the EMS of participating organizations are evaluated in a fair and consistent manner that corresponds with the expectations of the NBP. To this end, this Guidance summarizes the NBP EMS third party verification approach and addresses the following objectives.

- Introduces EMS auditors to the National Biosolids Partnership, the NBP EMS Program, and the NBP third party verification approach.
- Communicates the requirements for achieving NBP EMS verification, including the specific requirements associated with the 17 elements of the NBP *Elements of an Environmental Management System for Biosolids (EMS Elements)*.
- Outlines processes and procedures associated with NBP EMS third party verification.
- Presents the qualifications and requirements that NBP EMS auditors must meet.

While the primary audience for this Guidance is NBP EMS auditors, this Guidance should also be useful for other audiences interested in the NBP EMS Program, including organizations seeking verification of their environmental management systems. However, organizations seeking NBP verification of the EMS do not need to read the *Auditor Guidance* to understand the requirements and expectations for receiving EMS verification. These expectations are clearly provided in the other NBP Blueprint documents prepared for biosolids organizations (see section 1.3).

1.2 The National Biosolids Partnership

The 1993 U.S. Environmental Protection Agency's Part 503 regulations established federal biosolids management standards with respect to public health and the environment. This regulation has facilitated the expansion of biosolids recycling practices throughout the U.S. Biosolids contain nutrients that can be beneficially used in a wide range of agricultural, forestry, and horticultural applications. Public and regulatory community concerns over effective management of biosolids programs, however, pose formidable challenges to comprehensive beneficial utilization of biosolids.

In 1997, the Association of Metropolitan Sewerage Agencies (now the National Association of Clean Water Agencies (NACWA)), the U.S. Environmental Protection Agency (EPA), and the Water Environment Federation (WEF) agreed to form the National Biosolids Partnership (NBP). The NBP is a

not-for-profit alliance whose purpose is to promote safe, environmentally sound, and publicly acceptable biosolids management. The NBP EMS Program is designed to be practice-neutral, and includes land filling and incineration practices, as well as beneficial reuse. Biosolids producers, service contractors, and users - together with stakeholders from regulatory agencies, universities, the farming community, and environmental organizations - all have input into shaping the NBP priorities.

1.3 The NBP EMS Program

The NBP has sponsored several initiatives designed to promote responsible biosolids management within the industry with the goal of enhancing the environmental performance and public perception of biosolids programs. The cornerstone of these initiatives has been the development and implementation of the NBP Environmental Management System (EMS) Program. The NBP strongly believes that biosolids management organizations will benefit from adopting an EMS as part of their overall management programs. The potential benefits of adopting an EMS are numerous, including improved regulatory compliance, enhanced environmental performance, increased efficiency, reduced cost, pollution prevention, improved consistency and quality of biosolids materials, and improved relations with local communities. The NBP hopes that its EMS approach will be adopted throughout the biosolids industry, by wastewater treatment utilities, their contractors, and other stakeholders involved in biosolids production and final use and disposal.

The NBP goals for developing an EMS program are the following.

- To promote environmentally sound and publicly accepted biosolids management practices.
- To help program participants demonstrate to their communities that they are committed to go beyond meeting regulatory requirements and to explain how they are working to improve their environmental performance.
- To help program participants involve their communities in defining improved performance or areas that still require attention.

The NBP provides a blueprint that each biosolids organization can use to implement its own EMS. At the heart of the NBP EMS Program is the *Code of Good Practice* that sets forth the important principles and goals which govern the operation of environmentally sustainable biosolids management programs. These principles and goals have been translated down to the operational level through the development of the *EMS Elements*. The *EMS Elements* define the specific expectations and requirements, grouped into 17 elements, which the NBP believes to be important for ensuring that biosolids management activities are performed in an environmentally sound and publicly accepted manner. The *EMS Elements* define the specific expectations and requirements that an auditor will use to verify that an organization's environmental management system meets the NBP EMS Program requirements.

Individual biosolids organizations adopting the NBP EMS have the flexibility to determine how they will satisfy the biosolids EMS requirements that are applicable to their operations. The NBP acknowledges the need for substantial local tailoring of EMS planning and implementation activities, including the establishment of goals and objectives designed to support environmental improvement and the commitment to seek continual improvement. In no instance does the NBP intend to suggest that an organization should share decision making authority outside its traditional chain of command as a basis for program participation. Also, it is not the intent of the NBP that the development or implementation of an EMS be a substitute for regulatory oversight or that the EMS requirements be included as a regulatory

requirement in NPDES permits. The EMS, however, can and should be used by organizations as a means to meet their commitment to compliance with all applicable biosolids-related regulatory requirements.

Table 1.0: NBP EMS Blueprint Resources

<i>Code of Good Practice</i>	Sets forth a number of broad principles that govern the operation of sustainable biosolids management programs.
<i>National Manual of Good Practice</i>	Describes the full range of practices available to any facility wishing to implement an EMS for biosolids. The menu approach of the Manual encourages voluntary participation by allowing biosolids organizations to assemble the mixture of practices and procedures that are most appropriate for their individual organization at key locations that need to be managed to be successful. The Manual is available from the NBP and is intended to be used as a reference and guide on developing and implementing an EMS.
<i>Elements of an EMS for Biosolids (EMS Elements)</i>	For use by facilities in implementing an EMS. These Elements lay out the requirements by which an auditor will evaluate an EMS.
<i>Biosolids EMS Guidance Manual</i>	Guides development and implementation of an EMS conforming to requirements of the NBP program. It provides information on the NBP program, EMS benefits, and a suggested approach, along with specific instructions about what an organization will need to do to achieve success.

1.4 NBP EMS Verification and Program Certification

The NBP has developed an independent, third party EMS verification component of its EMS Program to support the goal of environmentally sound and publicly accepted biosolids management practices. Organizations interested in receiving formal recognition of their EMS and of their participation in the NBP biosolids EMS program must achieve verification of their EMS through the NBP third party verification process. The objectives of third party EMS verification are the following.

- Verify that the environmental management systems of participating biosolids organizations meet the expectations and requirements established by the NBP.
- Verify that EMS activities at participating organizations are being implemented in practice, as well as on paper.
- Assure environmentally sound performance of biosolids management practices.
- Increase public trust and confidence in biosolids management practices.

For the third party EMS verification process, the NBP has established the following relationships between the NBP, auditing organizations, the NBP Appeals Board, and participating biosolids organizations.

- The NBP establishes an audit contract with the audit company, with review and comment solicited by the NBP from the biosolids organization to be audited. The audit company receives payment for the audit from the NBP. The biosolids organization has a contract for the audit with the NBP. The biosolids organization pays the NBP for the audit and verification.
- The NBP approves the third party auditors and audit organizations who conduct the EMS verification and interim audits. The third party audit company negotiates a contract and scope of

work directly with the NBP and receives payment from the NBP, not from the biosolids organization being audited.

- Third party audit organizations issue a statement of EMS verification to biosolids organizations that successfully complete a third party EMS verification audit.
- NBP provides program certification for biosolids organizations that meet all requirements (see 1.4.2), including successful completion of third party EMS verification audit.
- Auditors are required to meet specific NBP training and certification requirements (see Chapter 2). Auditors (or their organizations) will pay for their own training and certifications.
- Biosolids organizations that wish to appeal their third party verification audit results can present an appeal to the NBP Appeals Board.
- The NBP Appeals Board makes decisions on appeals. (*See Chapter 5 for more information on the verification appeals process and on the makeup and role of the Board.*)

1.4.1 NBP Program and EMS Verification Eligibility

Any public or privately operated wastewater treatment facility in the United States with a biosolids program and responsibility, either directly or indirectly, for the full biosolids value chain is invited to participate in the voluntary NBP EMS Program and seek verification through the third party verification process.

To be eligible for an NBP EMS verification audit, an organization must meet the following criteria:

- Be responsible, directly or indirectly, for the full biosolids value chain – wastewater pre-treatment & collection; wastewater treatment & solids generation; solids stabilization, conditioning & handling; solids storage & transportation; and biosolids final use or disposal (technically defined as a “preparer” pursuant to federal regulation definitions);
- Have committed in writing to follow the NBP *Code of Good Practice* through a letter of understanding with the NBP, signed by the organization;
- Have an NBP EMS in place and operating for at least six months; and
- Have conducted at least one internal EMS audit.

The NBP encourages biosolids organizations to submit an application for the third party verification audit two or three months in advance of their desired audit date to allow lead time for contract negotiations and scheduling. Applicants can complete the requirement of having the EMS operate for six months prior to receiving the third party audit while the audit scheduling process is taking place.

1.4.2 NBP Program Certification

To receive NBP EMS Program certification, biosolids organizations must complete the following:

- Document responsibility for the biosolids value chain;
- Commit to the 10 principles in the NBP’s *Code of Good Practice*;
- Operate an EMS for biosolids that meets all the NBP’s requirements;

- Successfully complete a fully independent audit of its EMS and receive EMS verification from an NBP accredited audit company; and
- Commit to make continual improvements in their EMS and outcomes for environmental performance, regulatory compliance, relations with interested parties, and quality biosolids management practices.

Once an organization successfully completes EMS verification and becomes a certified NBP EMS Program participant, it must successfully complete regular third party interim audits to demonstrate the continued health and performance of the EMS and to maintain NBP EMS Program certification. EMS verification is good for five years from the date of the audit organization's issuance of a verification decision, at which point a biosolids organization can be re-verified provided that it continues to satisfy the above-mentioned requirements. This date of verification decision is an organization's anniversary date for purposes of NBP program participation. (*See Chapter 5 of this Guidance for additional information on the interim and re-verification audits, as well as maintenance of program certification.*)

The NBP EMS program provides recognition in the form of a "seal of approval" for organizations that receive program certification. NBP EMS Program recognition does not serve as a seal of product quality assurance, as direct product quality testing is not part of the EMS audit. Those organizations who receive program certification are granted permission to use the NBP EMS seal on buildings, equipment, signs, or other items as deemed appropriate (except for biosolids materials). (*See Chapter 5 of this Auditor Guidance for details about the NBP "visual indicator" and accompanying designation statements.*)

1.4.3 Verification Audit Scope & Approach

Consistent with the NBP *EMS Elements*, the EMS verification audit scope encompasses the entire biosolids value chain (wastewater pretreatment and collection through biosolids final use or disposal). The auditor should remember, however, that as an EMS for biosolids, attention should be focused on those practices and management activities that directly support biosolids-related operations, processes, and activities, as opposed to all wastewater treatment utility activities.

The NBP third party verification audit process is comprised of two major components. First, the designated auditor conducts a desk audit of the participating organization's application and supporting EMS documentation. During this review, the NBP anticipates that the auditor will be able to determine if the biosolids organization has satisfied the basic EMS program documentation requirements. This review must take place before any on-site activity. The auditor must make a determination, based upon his/her documentation review, if the organization's EMS has any major issues that could result in not being verified during an on-site visit. The NBP and the biosolids organization will be informed with a written report of the findings of the document review process.

Second, the auditor will conduct an on-site EMS verification audit. The on-site portion of the audit should emphasize examination of the effectiveness of the organization's biosolids management systems, as implemented, at delivering the organization's intended outcomes - which should be documented in the EMS Manual, environmental policy, and/or goals and objectives - on a consistent basis.

To make the verification determination, auditors will evaluate the adequacy of an organization's EMS with respect to the NBP EMS Program expectations and requirements established through the *EMS Elements*. At the same time, however, the NBP directs auditors to defer substantially to the expertise and knowledge of local conditions that program participants have and the decisions they then make regarding practice selection, environmental performance improvements, and public participation methods. The NBP

EMS Program has been specifically designed to provide substantial latitude for individual biosolids organizations to determine *how* to address the NBP expectations and requirements.

1.5 Structure of the Third Party Auditor Guidance

This section introduces the reader to the contents of the remainder of this *Auditor Guidance*.

Chapter 2 presents the qualifications and requirements for individuals who wish to participate as auditors in the NBP third party EMS verification process. This chapter presents the minimum auditor qualifications and the process for becoming an accredited NBP EMS auditor.

Chapter 3 describes pre-audit activities – what happens before the auditor’s on-site visit - including the EMS paperwork review (or desk audit’), and other pre-audit activities.

Chapter 4 describes the on-site verification audit, providing a guide to the format and scope of the on-site portion of the third party verification audit. This chapter addresses important logistical information, including special considerations related to the on-site audit process, such as public participation, contractor involvement, and final use and disposal operations.

Chapter 5 describes post-audit activities such as audit reporting, corrective actions, maintenance of program certification, NBP Appeals Board and process, interim audits, and re-verification audits.

Chapter 6 covers the Policy Elements (Element 1 - Documentation of EMS for Biosolids; Element 2 - Biosolids Management Policy) and provides interpretation of key areas.

Chapter 7 covers the Planning Elements (Element 3 - Critical Control Points; Element 4 - Legal and Other Requirements; Element 5 - Goals and Objectives for Continual Improvement; Element 6 - Public Participation Planning) and provides interpretation of key areas.

Chapter 8 covers the Implementation Elements (Element 7 - Roles and Responsibility; Element 8 - Training; Element 9 - Communications; Element 10 - Operational Control of Critical Control Points; Element 11 - Emergency Preparedness and Response; Element 12 - Documentation, Document Control and Recordkeeping) and provides interpretation of key areas.

Chapter 9 covers the Measurement and Corrective Action Elements (Element 13 - Monitoring and Measurement; Element 14 - Nonconformances: Preventive and Corrective Action; Element 15 - Biosolids Management Program Performance Report; Element 16 - Internal EMS Audit) and provides interpretation of key areas.

Chapter 10 covers the Management Review Element (Element 17 - Periodic Management Review of Performance) and provides interpretation of key areas.

Chapter 11 provides examples of potential EMS nonconformances under each of the 17 EMS elements.

The **Glossary** provides definitions of key terms for the NBP EMS Program.

The **Document Control Log** provides a summary of updates that have been made to this Auditor Guidance since its initial release.

CHAPTER 2: Third Party EMS Auditors - Qualifications & Requirements

Clear guidelines are necessary regarding auditor qualifications and requirements to ensure that the third party verification process of the NBP EMS Program sustains public confidence and acceptance, and provides program participants assurance that their EMS will be consistently and fairly evaluated. The establishment of minimum qualifications and requirements serves to:

- prevent potential conflicts of interest that may color auditor findings and recommendations or interested party perceptions of audit result legitimacy;
- ensure that auditors have sufficient familiarity and experience with wastewater treatment and biosolids management operations, practices, and regulations to evaluate organizations' EMS effectively;
- ensure that auditors have sufficient expertise related to management systems auditing; and
- ensure that auditors have sufficient training on and understanding of the specific goals, elements, and requirements associated with the NBP EMS Program and Blueprint documents.

This chapter reviews the minimum requirements that NBP-certified auditors must meet and summarizes the auditor certification, oversight, and evaluation processes.

2.1 Auditor Qualifications

All independent, third party auditors who provide EMS verification audits for the NBP EMS Program must be certified by the NBP. To receive certification, all auditors (individuals) must have the following minimum qualifications.

- Have not provided consulting services to any organization they audit in the two years prior to an audit and for two years after, to prevent a conflict of interest. Auditors also cannot become a consultant/contractor to the NBP nor provide consulting services with NBP funding to biosolids organizations developing an NBP EMS.
- Have a minimum of 5 years experience in wastewater treatment and biosolids program management (if the audit is conducted by a team, at least one auditor must have a minimum of 5 years experience in wastewater treatment and biosolids program management).
- Be a RABQSA International certified ISO 14001 Lead EMS Auditor (if the audit is conducted by a team, at least one auditor must be a certified Lead EMS Auditor).
- Be knowledgeable of applicable federal biosolids regulations, as well as the NBP *National Manual of Good Practice, Code of Good Practice, EMS Elements, EMS Guidance Manual, and Auditor Guidance*.
- At the time of the audit, be familiar with applicable state/local regulations, requirements and practices.

The NBP believes that the above combination of skills and experience will provide auditors who are competent in systems auditing, as well as familiar with wastewater and biosolids program management. These skills, and the requirements regarding conflicts of interest, will also provide for auditors that are seen as credible by biosolids management program interested parties.

The NBP recognizes that it is not feasible for all auditors to be knowledgeable of biosolids regulations in all 50 states and numerous localities. To ensure that auditors are familiar with state and local requirements, the NBP intent, where feasible, is that participating wastewater treatment organizations will have audits conducted by auditors located within their region.

2.2 Auditor Certification

To be certified by the NBP to perform third party EMS audits, all auditors must meet the minimum qualifications described above and provide resumes, certifications, and/or other documentation to NBP demonstrating qualifications. Additionally, all third party auditors must pass a written exam and oral interview to clearly demonstrate an understanding of the NBP EMS Program.

2.3 Auditor Oversight and Evaluation

NBP staff review the third party audit reports and/or conduct audit debriefs with the third party auditors and local biosolids agencies after each third party EMS audit. NBP staff members also randomly observe third party auditors conducting audits to assure that NBP requirements are being met. The purpose of these activities is to ensure that the third party audits are being conducted consistent with the NBP EMS Program requirements and expectations.

CHAPTER 3: Pre-Audit Activities

This chapter addresses the various activities of the NBP third party EMS verification process that occur prior to the on-site verification audit, including notification of interested parties, the verification application process, and EMS paperwork review or desk audit. These activities are designed to ensure that an organization's EMS is ready for third party verification in the form of an on-site audit.

3.1 Notification of Interested Parties

Prior to applying for a third party verification audit, the biosolids organization must notify its interested parties of its intent to receive an independent third party audit and have built into the EMS planning a discussion with interested parties about approaches for observing the third party audit. The NBP believes this provides the organization the best opportunity to manage expectations about audit results, articulate any constraints needed on audit observation, and understand how best to conduct the audit to gain maximum public acceptance of biosolids management activities.

During the EMS audit, auditors shall verify that such notification has been made. Auditors should note, however, that the NBP does not require a biosolids organization to have interested parties observe or otherwise participate directly in the independent, third party audit. This same notification to interested parties is required for third party interim audits, as well as full verification audits.

3.2 NBP Verification Audit Application Process

The NBP encourages biosolids organizations to submit an application for the third party verification audit at least two or three months in advance of their desired audit date to allow sufficient lead time for NBP to conduct contract negotiations and schedule the third party verification audit. The applicant can complete the requirement of having the EMS operate for six months prior to receiving the third party audit while the audit scheduling process is going. To apply for a verification audit, a biosolids organization must submit the following materials to the NBP.

- A completed EMS Verification Application form, which includes a description of the organization's intended use or disposal of biosolids material, the desired biosolids material characteristics, the wastewater facility operations associated with biosolids production, a characterization of contractor use and final use and disposal operations, and documentation of notification of interested parties about the intent to receive an audit and a discussion with interested parties about approaches to observe the audit.
- A signed letter from the participating biosolids organization to the NBP that includes a clear statement of the date at which the organization believes it has achieved full implementation of its EMS (defined as the date when management officially approved the EMS Manual). This date starts the clock for the six months of EMS operating experience necessary to receive the initial verification audit.
- A copy of the organization's Biosolids Management Policy that includes a commitment to following the principles of conduct set forth in the *Code of Good Practice*.

- A copy of the organization’s most recent internal EMS audit report.
- Supporting documentation in the form of an EMS Manual or collection of relevant documents that demonstrates that the organization’s EMS addresses all of the 17 *EMS Elements*.

The information in the application shall include a list or description of actual operational controls, standard operating procedures, and operating records, sufficient to allow the auditor to gain an understanding of the facility and its operations prior to coming on-site. The supporting documentation should demonstrate that the organization has established policies, programs, procedures, and/or systems for each of 17 NBP *EMS Elements* and their associated requirements. The NBP anticipates that most organizations will submit an EMS Manual that describes the organization’s EMS and that references additional specific documents (e.g., Emergency Response Plan, operating procedures) but does not include them. Documentation of the organization’s critical control points in an EMS Manual will help the auditor understand the type of utility operations, including final use or disposal, and determine whether the identified critical control points are consistent with the NBP reference manuals, and what the scope of the audit should be.

The NBP shall review the EMS Verification Application to confirm that the organization meets the program eligibility requirements identified in Chapter 1 of the *Auditor Guidance*. As well, the NBP shall review the application to ensure that it has been filled out completely, and that all required documents have been submitted. If the application indicates that the organization does not meet the program eligibility criteria, the NBP will contact the organization with that information. Organizations are eligible to reapply for NBP EMS verification in the future. If all of the required documentation is not included in the application package, the NBP will contact the organization to request the missing information. This would include confirming that supporting documentation is included in the application, but would not include a review of the supporting documentation to confirm it addresses the *EMS Elements* requirements. That review is done by the third party auditors. Once the NBP has confirmed that the organization meets the program eligibility criteria and that the required documentation is included, the NBP shall forward the application and supporting materials to the selected audit firm.

The NBP staff shall work with the selected audit firm and the biosolids organization to develop a mutually agreed upon audit plan (with scope, schedule and budget). Sufficient budget detail shall be provided by the audit firm to address biosolids organization questions about cost (e.g., number of required audit days, desk audit costs, and final report detail). When all three parties – the NBP, audit firm, and biosolids organization - have reach agreement on the audit plan, the NBP shall establish contracts for audit services with the selected audit firm and with the biosolids organization and issue a notice to proceed with the audit. At this point, the audit firm and biosolids organization may begin direct contact and proceed with audit activities. Any further changes to the audit scope, schedule, or budget that arise from this point forward must go through the NBP for contract amendment.

3.3 EMS Documentation Review

Once the audit firm has received a notice to proceed from the NBP and a copy of the EMS Verification Application and documentation, a Lead Auditor shall be assigned to conduct the “desk audit”. The desk audit includes a review of EMS documentation (required), and may also include a short, on-site visit by the auditor (optional) to confirm that the EMS is ready for an on-site verification audit. A brief report will be issued to the NBP and the biosolids organization on the results of the desk audit. If the report indicates that the desk audit found issues that could result in a verification failure, the audit company must contact both the NBP and the biosolids organization for guidance on a decision to continue with the next phase of

the audit. At that point, discussions between the biosolids organization and the audit company can take place to clarify any issues that might not have been clear during the desk audit.

3.3.1 Purpose of the EMS Desk Audit

The desk audit serves the following purposes.

- Determines if the biosolids organization's EMS addresses the basic requirements of the NBP EMS Program, as defined in the *EMS Elements*, sufficiently to warrant a full, on-site verification audit.
- Confirms that the organization's biosolids management system and stated goals and objectives are aligned with the *Code of Good Practice* and NBP EMS Program objectives.
- Confirms whether or not the critical control points, operational controls, and management practices identified in the EMS materials are consistent with those in the *National Manual of Good Practice*.
- Allows the Lead Auditor to assess the amount of time that is likely to be needed for the on-site audit, based on the size and complexity of the facility (or facilities) and number and location of final use and disposal operations.
- Enables the Lead Auditor to determine where and when the technical biosolids auditor expertise may be necessary to effectively evaluate the biosolids organization, based on the types of processes and practices utilized by the biosolids organization.

3.3.2 Desk Audit Process

The Lead Auditor shall complete the desk audit preferably within 30 days and at a maximum within 60 days of receiving the EMS Verification Application Form and supporting documentation from the NBP.

If after examining the documentation the Lead Auditor finds that there is insufficient EMS documentation to make a determination about whether the EMS addresses the requirements of the *EMS Elements* (i.e., if required documents are missing or documents do not address all the specified topics), the Lead Auditor shall contact the representative of the organization to ascertain whether other paperwork exists that has not been supplied. If so, the local biosolids organization may supply additional documentation to the Lead Auditor for review.

Biosolids organizations have the option to ask for a short, on-site visit as part of the desk audit. The on-site visit would include an examination by the Lead Auditor of four-to-six key EMS Elements to further aid in determining EMS readiness for a full verification audit (which would cover the remaining EMS elements and all operations). The on-site visit as part of the desk audit can also help the Lead Auditor to better plan for the remaining on-site audit in terms of determining which operations and sites to observe directly and which portions of the audit require the biosolids technical auditor. This additional planning, as well as EMS readiness, can help control overall audit costs.

3.3.3 Desk Audit Findings

After conducting the EMS desk audit, the Lead Auditor shall contact the applicant organization's EMS representative (identified clearly on the EMS Verification Application form) and discuss the auditor's observations, including any indications that the organization's EMS does not address, or does not fully address, any of the requirements of the *EMS Elements*. This contact provides the applicant with an

opportunity to understand the nature and significance of the auditor's observations. In some cases, the applicant may be able to provide additional documentation to the auditor that demonstrates that the requirement(s) has (have) been addressed.

Based on the auditor's observations from the desk audit, additional contact with the applicant, and an on-site visit (if conducted), the Lead Auditor shall make a determination as to whether the full, on-site audit should proceed. This determination is based on the Lead Auditor's assessment of EMS readiness with respect to the requirements of the NBP's *EMS Elements*. The Lead Auditor will provide written notice of this determination to the biosolids organization and the NBP. If the Lead Auditor has determined that additional work is required before the on-site portion of the verification audit is warranted, then the paperwork shall be returned to the organization with the written notification. If the EMS paperwork is complete and indicates that the EMS generally addresses the requirements of the *EMS Elements* and the Lead Auditor has determined that the on-site audit should proceed, the audit firm and biosolids organization shall move forward with the on-site audit.

3.4 Planning for the On-Site Audit

The Lead Auditor shall determine, based on the size and complexity of the facility and location of sites, when and where to involve additional auditors to complete the site visit. The Lead Auditor shall determine how many additional auditors are necessary and contact appropriately qualified people to ascertain their availability. The amount of time needed to conduct the on-site audit can vary depending on the type and complexity of biosolids operations, the geographic location of the organization's facilities, and the number of auditors on the EMS verification audit team.

The Lead Auditor shall contact the representative of the organization to set the dates of the site visit and discuss the scope, agenda, and any audit requirements. These requirements include: availability of a private room and/or working area; use of a telephone; provision of lunch on site; any issues related to "rights of entry"; use of local auditors; availability of relevant personnel, including top management, for interviews; any health and safety requirements or precautions that may be relevant to the team during the audit; and any other logistical or administrative activities that need to be coordinated or planned prior to the on-site visit.

Following this contact, the Lead Auditor shall provide an audit plan and agenda to the representative of the organization. The audit plan shall identify the biosolids value chain critical control points for possible observation during the audit. In addition to the tentative audit agenda and plan, the Lead Auditor shall also provide the organization with the following information.

- Composition of the audit team.
- List of individuals (by generic position titles) whom the auditor would like to interview, to ensure that they have time available during the on-site visit.
- Letter from the Lead Auditor to the applicant to confirm dates and establish the process, protocol, and auditor expectations for the organization (e.g., availability of personnel and documents during the audit, provision of a private room and/or working area, use of a telephone, provision of lunch).
- List of additional materials that should be available for on-site review during the audit.

3.5 Tiered Approach and Program Recognition

The NBP has established four tiers of program participation and recognition.

Tier 1: Bronze

Agency has made a commitment to the NBP *Code of Good Practice*, with the ultimate goal of obtaining third party verification and NBP certification.

Tier 2: Silver

Agency has the 17 EMS Elements in place and is awaiting third party audit.

Tier 3: Gold

Agency has received third party EMS verification and NBP certification.

Tier 4: Platinum

Agency has completed one or more interim audits to maintain audit company verification and NBP certification.

CHAPTER 4: On-Site Verification Audit

This chapter addresses the various activities of the NBP third party EMS verification that occur during the on-site verification audit, including the audit scope and approach, format, types of testing, and general evaluation criteria.

4.1 On-site Audit Scope and Approach

The on-site portion of the audit should emphasize examination of the effectiveness of the organization's biosolids management systems, as implemented, at delivering the organization's intended outcomes - which should be documented in the EMS Manual, environmental policy, and/or goals and objectives - on a consistent basis. The NBP directs auditors to include as an audit activity, emphasis on those areas of an organization's management system that are necessary, as defined by the participating organization, to achieve the NBP's goal of promoting environmentally-sound and publicly accepted biosolids management.

4.1.1 On-site Audit Scope

During the on-site portion of the audit, auditors shall examine the organization's operations (including wastewater treatment facilities, pretreatment and collection programs, storage facilities, transportation equipment, and final use and/or disposal sites) related to the biosolids value chain, and review EMS records and documents that are not included in the EMS Manual and application materials.

Consistent with the NBP *EMS Elements*, the on-site EMS audit scope shall encompass the entire biosolids value chain. The auditor should keep in mind that as an EMS for biosolids, audit emphasis should be on those activities that relate to the biosolids value chain, as opposed to all wastewater utility activities. The scope of the organization's EMS is determined by the organization's selected critical control points throughout the biosolids value chain. Therefore, the auditor need only examine activities throughout the biosolids value chain insofar as there are critical control points that the organization relies upon to ensure that the characteristics of its biosolids material (e.g., solids content, metals, pathogens, odor, plastics, vector attraction) satisfy the regulatory, quality, and public acceptance requirements associated with the organization's handling, management, and final use or disposal of the biosolids material.

The NBP intends for all audits - third party verification, third party interim and internal audits - to include a sampling of activities for direct observation during the on-site portion of the audit. The auditor shall select a sampling of activities for direct observation, based on the organization's identified critical control points, with the following exceptions.

- To maintain EMS Program credibility, and to achieve the NBP's goal of increased public acceptance of biosolids management activities, the NBP requires that, during verification audits, the auditor directly observe all facilities that produce biosolids and are covered by the organization's EMS. Facilities that "produce biosolids" are considered those that include processes in the value chain from solids stabilization forward.

- The NBP does not require direct observation of all final use and disposal sites during the verification audit. However, some specific criteria for auditors to use in selecting final use and disposal sites for direct observation are provided in sections 4.2.4 and 4.2.5.

Auditors should note that the audit does not entail an analysis of biosolids material characteristics by the auditor, only that the organization has effective systems for ensuring that biosolids material characteristics meet all requirements associated with its intended final use and/or disposal method.

4.1.2 Audit Approach for Small Organizations

The NBP expects that the amount of on-site audit time should vary with the size and complexity of the organization being audited. Factors of size and complexity that should be considered in determining the length of the audit include the number of employees, capacity (e.g., million gallons per day), number of facilities, number of remote sites, number and types of end use sites, and number of contactors. The NBP is particularly focused on keeping audit costs low for smaller, less complex organizations – i.e., those that have fewer facilities, fewer employees, etc.. The NBP believes that smaller organizations should be able to meet the requirements in the NBP *EMS Elements* with less paperwork and documentation generated. The NBP expects the third party auditors to keep this in mind and use their professional judgment in determining how many days are required for auditing a smaller organization.

4.1.3 On-Site Audit Approach

During the desk audit, the auditor should have been able to understand the organization's management processes and the steps in the biosolids value chain that are relevant to achieving the intended final use(s) or disposal. For example, if the only final use or disposal method for the biosolids material is land application, then landfill and incineration would not be relevant value chain steps for the organization.

During the on-site audit, the auditor shall look for objective evidence at each step in the value chain that is relevant to the organization that the organization's actual practice conforms to that documented in its EMS. If the auditor has any indication that actual practices diverge from practices documented as part of the EMS, the auditor shall assess the degree to which the finding suggests a weakness in the organization's EMS for biosolids. In particular, a divergence in actual practice can have important implications for the completeness and appropriateness of the critical control points, legal and other requirements, and operational controls that are included in the organization's EMS.

During the on-site audit, the auditor shall also look for objective evidence that the organization's EMS is functioning as intended. This is largely done through the use of transaction testing, described in greater detail in section 4.5.2, and examining outcomes produced by the EMS, further described in section 4.5.3.

4.2 On-site Audit Format

This section summarizes the typical format of an on-site EMS verification audit. The specific structure and agenda for the site audit will depend on multiple factors, including the nature of the organization's operations, the final use or disposal of biosolids material, the number of wastewater treatment facilities, the location of final use and disposal facilities, relevant processes and steps in the biosolids value chain, and the presence of contractor operations. Based on the desk review of the organization's application and EMS Manual, the lead auditor should have sufficient information to work with the facility to prepare a preliminary plan and agenda for the site visit. While the lead auditor has discretion in arranging the

schedule and plan for the on-site audit, the NBP recommends that the general agenda and structure of the audit follow the format discussed below.

4.2.1 Collection of Objective Evidence

The primary focus of the on-site audit is to collect objective evidence that verifies that the organization's biosolids EMS is functioning as intended, that practices and procedures are conducted as documented, and that the EMS, as implemented, is aligned with the *Code of Good Practice* and NBP EMS Program objectives.

Objective Evidence – policies, ordinances, procedures, manuals, inspection checklists, operating logs, annual reports, and other documents and records; observations of practices, equipment, and facilities; and interviews with key personnel, management, or contractors that objectively demonstrate conformance with the *EMS Elements* requirements.

To collect objective evidence, the audit team shall conduct interviews, review on-site documentation, and directly observe selected activities and locations that are relevant to critical control points and associated operational controls identified by the organization as being important to managing its biosolids-related operations and material. These various “modes of audit inquiry” (interviews, document review, and direct observation) enable the audit team to collect “objective evidence” that verifies whether or not the organization's EMS adequately addresses the NBP expectations and requirements as stated in the *EMS Elements*. Interviews shall assist the auditors in determining whether employees are familiar with the environmental policy and its requirements, and their specific EMS-related responsibilities. Review of on-site documentation and records allows the auditors to determine whether required documents exist, procedures are being implemented as written, and that appropriate records are being kept. When specific questions arise that the biosolids organization representative cannot answer, or that require a review of specific areas, an auditor may need to observe activities or locations directly, accompanied by an organization representative. Such evidence might include monitoring logs, training records, posted notices, or meeting minutes. If written evidence is not available, the auditor may need to question a sample of relevant employees to determine that their answers are both consistent and support the EMS. Auditors shall use these three methods of collecting objective evidence during each phase of the on-site audit discussed below.

4.2.2 Entrance Meeting and Document Review

The site visit will start with an entrance meeting, which will be led by the Lead Auditor. It is recommended that the initial meeting and document review be conducted at the organization's primary location or facility, where important EMS documents discussed below are accessible. This location is likely to vary depending on the size and structure of the organization. For example, large organizations may have a central office that is separate from its treatment facilities and other facilities, whereas smaller utilities may have administrative offices and EMS records located at the primary wastewater treatment facility.

The purpose of the entrance meeting is to:

- introduce members of the audit team to the organization's representatives;
- brief the organization's EMS representative, facility manager, and key staff on the scope of the audit, audit team activities, and requirements; and
- confirm the plan and agenda for the audit.

Following the entrance meeting, the audit team will likely need to review documents and continue discussions with key representatives of the organization to confirm the specific critical control points, facilities, and locations that should be observed and/or visited during the subsequent on-site audit phases discussed below. The audit team might also review copies of previous internal or third party audit reports at this time to identify potential areas for exploration or follow-up. Based on this initial document review, the audit team should work with key representatives of the organization to finalize the site audit plan and agenda. Auditors should expect that the entrance meeting and document/records review will typically require a half-day of on-site time.

4.2.3 Direct Observation of Facilities and Equipment

During the on-site portion of the verification audit, the auditor (or at least one member of the audit team) shall directly observe all treatment works that produce biosolids and are covered by the organization's EMS. As described above, facilities that produce biosolids are considered those that include processes in the biosolids value chain from solids stabilization forward. For third party interim audits, the Lead Auditor shall determine if direct observation of all treatment works that produce biosolids is necessary.

The auditor shall directly observe a sampling of all other facilities and equipment covered by the organization's EMS through selection of critical control points. The length of the on-site portion of the audit shall vary according to the scale and complexity of the biosolids management operations and the location and distance between sites.

4.2.4 Final Use and Disposal Operations

The NBP believes that direct observation of final use and disposal operations, whether operated by contractor or not, are necessary for program credibility. Because many final use or disposal operations are not located on or adjacent to the treatment facilities, auditors are not required to observe directly all final use or disposal operations, as the costs of such a requirement could be prohibitive. The NBP seeks to balance program credibility with audit costs by not requiring that all final use or disposal operations receive direct observation. Instead, the NBP has established the following requirements.

- The auditor shall choose a sampling of final use and disposal operations to observe directly.
- If final use and disposal operations are performed by a contractor or contractors, then the auditor shall observe directly, at a minimum, one site for each contractor.
- If the organization utilizes multiple types of final use and disposal operations, then the auditor shall observe directly, at a minimum, one site for each type of final use and disposal method (for example, agricultural land application is a different from forest land application or land reclamation).

Some final use and disposal operations may take place on private property not owned by the organization or its contractor (e.g., land application on a private farm). In this case, the organization or its contractor may need to include a contract clause to provide right of entry. Additionally, the NBP believes that flexibility in the audit plan is necessary to address the intermittent and changing nature of some final use and disposal operations (e.g., land application at certain sites might be halted during winter months).

For cases where a biosolids management organization has multiple final use and/or disposal operations, the auditor shall consider, in addition to the minimum criteria identified above, which operations:

- are scheduled for activity during the time of the audit;
- might require intensive management activity; and
- have a history of or are at higher risk of having public issues or concerns (e.g., sites in close proximity to residential/commercial areas).

However, the NBP does not require that final use and disposal sites included for direct observation have current activity at the time of the audit, as there can be some benefit to examining inactive sites, such as sites where biosolids had been previously applied or stored. Additionally, the NBP cautions auditors not to focus solely on those land application sites that have received the most public attention or are the largest, but also consider some of the smaller and more out of the way sites as the NBP believes it important that publicly accepted and environmentally sound biosolids management practices are utilized consistently at all sites, including those that otherwise might receive less intensive management.

As a result of the seasonal nature of some biosolids management activities, auditors should expect that biosolids organizations may request that the on-site portion of the audit be conducted during a specific time of year. As well, auditors may determine that they need to revisit, for direct observation, sites that had been inactive during the time of the audit to complete the audit and make an EMS verification determination.

If a final use or disposal operation is a considerable distance from the organization's wastewater treatment facility(s) or focus of operations, local or regionally-based auditors may conduct the site visits to keep audit costs lower (the lead auditor shall audit all operations close to the organization's wastewater treatment facilities). Local auditors shall send audit findings on final use and disposal operations to the lead auditor. If the third party auditor finds that documentation and interviews are inadequate to satisfy the auditor that there is a healthy system throughout all final use and disposal operations, then the auditor may find it necessary to visit additional sites or take further actions to determine the health of those parts of the biosolids EMS.

4.2.5 Contractors

The NBP considers relevant agency contractors to be those that have identified roles and responsibilities for biosolids management activities associated with the critical control points of an agency's biosolids value chain. The NBP acknowledges that agencies may have contractors performing functions outside the biosolids value chain and are therefore not included in the requirements of the NBP EMS or third party verification. The following are examples of contractors that would *likely* be covered by the EMS because of their roles and responsibilities for biosolids management along the value chain: haulers/transporters, land appliers, laboratories, and composters. Examples of contractors that would probably not have biosolids management roles and responsibilities connected to critical control points on the value chain – and therefore not covered by the NBP EMS - include offsite IT contractors, document management, and payroll services.

The NBP expects all contractors with roles and responsibilities for biosolids management activities to have contracts that recognize the conditions imposed by the agency EMS, regardless of the extent of responsibilities or involvement of the contractor with the agency's EMS.

During the desk and on-site audits, auditors are expected to examine contract documents and conduct interviews with contractors to determine if contractor roles and responsibilities are defined, as consistent with the *EMS Elements*. In cases where contractors are used by the organization to manage key critical control points and associated operational controls, the audit team shall audit these operations in a manner identical to operations at the biosolids organization (see also sections 4.2.3 and 4.2.4). During the audit,

full EMS documentation shall be made available from contractors and a contractor representative is expected to attend portions of the on-site audit, where appropriate.

4.2.6 Follow-Up

In some cases, the audit team may need to spend additional time prior to the close of the site audit to return to the organization's facilities and/or administrative offices to follow-up on unresolved areas of audit inquiry or questions that arose during the course of audit activities. For example, auditors may find it appropriate to examine the organization's communications processes (Element 9) or other EMS system processes (see Elements 14 through 17) following the review of the treatment works, final use, and disposal operations, since the auditors may be aware of potential EMS system weaknesses that need to be more thoroughly explored and tested.

4.2.7 Exit Meeting

An exit meeting shall be held with representatives of the organization to present the findings of the audit. This meeting can provide the opportunity for the organization to present additional information that may not have been available during previous audit activities. The tentative outcome of the audit shall be discussed at the exit meeting.

During the exit meeting, the organization and Lead Auditor shall discuss the need for ongoing interim and internal audits. After the verification audit is complete, the biosolids organization and the Lead Auditor shall develop an agreed-upon interim audit plan, including the EMS elements that will be reviewed in the interim audits during the ensuing four years of the five-year audit cycle. In the plan, the biosolids organization should indicate its intent to substitute internal audits in eligible years (see Chapter 5). Thus, the organization shall always know in advance if a third party interim audit shall need to be conducted during the coming year. During these discussions, the biosolids organization and the third party auditor should also cover any changes to operations anticipated in the coming year that could affect the EMS. Changes to operations that should be discussed include those that would require changes to the identified critical control points or environmental impacts associated with the critical control points.

4.2.8 Recording Nonconformances

During the audit, the audit team shall work closely with the representative of the biosolids and shall keep this representative informed of any findings and potential findings as they are discovered. This allows the organization to provide additional information as available to assist the auditors in assessing the EMS appropriately.

Audit team members shall meet independently of representatives of the organization to discuss any questions and findings resulting from the interviews and document review and determine exactly where nonconformances exist.

Prior to the exit meeting, EMS strengths, weaknesses, and all nonconformances identified during the audit shall be recorded on an audit findings sheet. The auditor will then present and discuss these findings with the representative of the audited biosolids organization at the exit meeting.

4.2.9 Peer Involvement

The NBP believes that the participation of peer organizations can have a variety of benefits, such as technical assistance, feedback, and advice to be gained. As a result, organizations may choose to have

peers participate in the development and implementation of their EMS. Peers may also observe the independent third party audit and serve as a resource for the organization (e.g., by providing technical assistance, conducting audit readiness assessments, providing advice on corrective actions, etc.). However, peers may not be part of the third party audit team (e.g., they do not have a role in collecting objective evidence or making the verification recommendation). As well, it is critical that peers do not interfere with the third party audit. Any technical assistance or advice provided by peers shall come either after the third party audit, or before the third party audit as part of implementation or assessing readiness.

4.3 Evaluation Criteria: System Nonconformances

For each of the EMS testing approaches described above and all of the NBP EMS requirements, the auditor must understand the applicable criteria for evaluating whether or not the organization's EMS satisfactorily addresses the requirement. In other words, the auditor must understand what the "hurdle", or "bar", is for each requirement and test. Performance above this threshold indicates that the organization's EMS sufficiently addresses the particular EMS requirement. Performance below the bar indicates that the organization's EMS does not sufficiently address the particular EMS requirement. This latter case results in a "nonconformance". In this case, the auditor must then distinguish whether the nonconformance constitutes a minor nonconformance or a major nonconformance. Definitions of major and minor nonconformances are the following.

- **A minor nonconformance** is one that, when taken by itself, does not indicate a systemic problem with the EMS. It is typically a random or isolated incident. Minor nonconformances involve discrepancies within an element of the *EMS Elements* or the organization's environmental management system that do not significantly affect the implementation of the environmental management system and commitment to conform with the *Code of Good Practice* – a systemic problem is not indicated.
- **A major nonconformance** occurs when one of the elements in the *EMS Elements* has not been addressed or has not been addressed adequately. Major nonconformances can occur when an organization has documented a process or procedure, but has not implemented it or cannot demonstrate effective implementation. A major nonconformance can also occur if an number of minor nonconformances in a given activity or against a given element point to a systemic failure. Major nonconformances also exist if an element is being disregarded sufficiently during organization operations that it is having a noticeable effect on the organization's environmental compliance, environmental impacts, or the quality of the material being produced – there is a gap or problem that could lead to a systemic failure.

Auditors may also identify opportunities for improvement that point out areas where an organization's EMS could be strengthened, but that do not rise to the level of a minor nonconformance.

- **An opportunity for improvement** is a program element that conforms to the requirements outlined in the *EMS Elements*, but which may be improved by following suggestions, examples or benchmarks cited by the auditor.

The NBP recognizes that not all environmental management systems will be perfect, if any. The NBP also understands that an EMS does not need to be perfect to be effective. Minor nonconformances are expected as program participants adapt to address diverse changes and challenges. It is essential,

however, that an organization's EMS actively engages a process of continual improvement to identify, learn from, and respond to nonconformances so that they are addressed in ways that prevent recurrence.

When the auditor has identified a minor nonconformance during the on-site audit, the organization shall resolve the nonconformance and provide documentation to the auditor within 30 days of the audit, unless the auditor and biosolids organization have made mutually agreeable alternative arrangements in the context of an action plan. The NBP acknowledges that biosolids organizations may not be able to fully correct some minor nonconformances within 30 days. The NBP requires that the audited organization develop an action plan, with time frames approved by the Lead Auditor, for correcting minor nonconformances. The action plan shall be developed and shared with the Lead Auditor within 30 days of the audit completion. The Lead Auditor must review and approve the action plan, including proposed timeframes, for correcting minor nonconformances. The Lead Auditor will review the effectiveness of action taken to correct minor nonconformances, and will expect that nonconformances have been corrected, no later than at the next third party interim audit. Only the third party NBP auditor may close out – or verify the correction of - nonconformances identified during a third party verification or third party interim audit. Individual findings of minor nonconformances shall not prevent an organization from successfully completing a verification or interim audit.

When the third party auditor has identified a major nonconformance during the on-site audit, the organization must resolve the nonconformance and have the auditor verify that the nonconformance has been corrected. Failure to correct a major nonconformance identified during an on-site audit shall prevent an organization from successfully completing a verification or interim audit. The NBP recommends that organizations correct any major nonconformances within 90 days, but the required time frame is subject to agreement with the Lead Auditor. If a major nonconformance is corrected within the 90-day time period or other mutually agreed-upon time frame, the auditor is only required to verify that the specific nonconformance has been corrected. Failure to correct a major nonconformance during within the 90-day period or other mutually agreed-upon time frame shall result in the organization having its certified program participation status revoked, or not achieving certified participant status, until another full verification audit has been completed successfully. The Lead Auditor shall determine if an on site visit is required to verify that the major nonconformance has been corrected, or if the verification can be made off site via document review.

Opportunities for improvement do not require correction by the organization within any given timeframe as they are not nonconformances. The organization may choose whether or not to address the opportunity for improvement cited by the auditor.

4.4 Methods of Collecting Objective Evidence

There are three primary methods of collecting objective evidence available to auditors during the on-site verification audit to determine an organization's conformance with regard to the *EMS Elements* and requirements. These methods include document review, interviews, and direct observation of operations. Whenever possible, the audit team should utilize more than one of these methods to ensure that findings are consistent and cross-checked. Each of these methods of collecting objective evidence is discussed in greater detail below.

4.4.1 Document and Records Review

Document and records review provides one method of collecting objective evidence for auditors. In some cases, the *EMS Elements* identify specific requirements regarding documents or records that an organization must have (e.g., Emergency Preparedness and Response Plan). In this case, document and records review enables the auditor to determine both that the document or record exists and that it addresses any required topics or information. In other cases, document and records review may provide evidence that an organization has a particular system in place or is following a required procedure. For example, tracking logs may indicate that regular monitoring procedures are being followed. Typical documents or records reviewed during an EMS verification audit include written policies, procedures, manuals, reports, brochures, action plans, forms, operating records, and logs.

4.4.2 Interviews

Interviewing is another useful tool for collecting objective evidence during an audit. By asking questions of employees and contractors who work with a biosolids organization, auditors can gain a better understanding of how management systems and practices actually work. Interviews also provide information about the degree to which aspects of the EMS are understood and implemented.

4.4.3 Direct Observation

Direct observation is the third method of collecting objective evidence available to auditors. During the on-site audit, an auditor might observe if an employee is following a procedure or operating a piece of equipment in light of expectations from the EMS or the *National Manual of Good Practice*. Direct observation provides a useful means for verifying that an organization is actually implementing procedures and controls prescribed in the EMS and other relevant documentation.

4.5 Audit Testing

There are three complementary approaches to testing that auditors shall employ to evaluate whether an organization's EMS meets the expectations and requirements identified by the NBP. These testing approaches are "requirement verification", "transaction testing", and "examining outcomes". Requirement verification ensures that the organization's EMS meets the basic requirements of the *EMS Elements*. Transaction testing and outcomes examination ensure that the organization's EMS is functioning as intended and producing desired outcomes.

4.5.1 Requirement Verification

Requirement verification looks at specific NBP EMS elements to determine if the organization's EMS satisfies the associated requirements, as defined in the *EMS Elements*. There are specific requirements associated with each NBP EMS element that can be individually evaluated or tested.

Requirement Verification looks at specific NBP EMS elements to determine if the organization's EMS satisfies the associated requirements, as defined in the NBP *EMS Elements*.

Failure of an organization to completely or adequately address the minimum requirements associated with each EMS Element shall likely constitute a finding of major nonconformance by the auditor. Many of the requirements of the *EMS Elements* can be tested by determining if there is a particular process or system in place, or if a document or procedure exists. Many of the required, documented procedures and plans can be examined during the desk audit review. Additional collection of objective evidence during the on-site audit can demonstrate or document that the required process, procedure or document does exist and/or that it operates consistently with NBP EMS expectations. Objective evidence typically includes some form of physical evidence, such as written policies, procedures, manuals, reports, brochures, action plans,

forms, records, information systems, or equipment. Objective evidence can also include interview results (e.g., employee awareness of a procedure), planning meetings, meetings with interested parties, and other evidence that provides indications that a requirement is being met or not met. An example of the Requirement Verification approach is presented below.

Element 1: Documentation of EMS for Biosolids

To assess if an organization's EMS for biosolids meets the requirements of Element 1, the auditor would look to answer affirmatively the following questions through the collection of objective evidence.

- Does the organization have an EMS Manual?
- Was the EMS Manual approved by a level of the organization's management with the authority to commit people and resources to biosolids management activities?
- Does the EMS Manual contain the organization's Biosolids Management Policy and EMS Procedures required by the *EMS Elements*?
- Does the EMS Manual contain or cross-reference Public Participation, Communications and Emergency Preparedness and/or Response Programs and Plans required by the *EMS Elements*?
- Does the EMS Manual cover all critical control points for its biosolids management activities throughout the biosolids value chain?
- Does the EMS Manual include or cross-reference all operational controls, procedures, processes and other management methods used to achieve and maintain compliance with legal and other requirements?
- Does the EMS Manual describe those biosolids management activities assigned to and performed by contractors?

4.5.2 Transaction Testing

The NBP believes that it is also important to verify that required processes and procedures actually work as documented and intended. Transaction testing provides a useful approach for investigating overall system health. Transaction testing enables auditors to assess how well various components of an organization's EMS function in practice and how well they work together.

Transaction Testing enables auditors to assess how well various components of an organization's EMS function in practice and how well they work together from a broader systems perspective.

Far too often, organizations' efforts to develop environmental management systems become paper pushing exercises that result in a set of binders on the shelf, rather than in changes in the ways a facility operates. Documentation of policies, procedures, and EMS activities is important for supporting EMS implementation, creating institutional memory, and demonstrating the existence of environmental management systems. However, documentation does not ensure that the policies and procedures are followed or that the EMS works as intended. Transaction testing provides a means for ensuring that an organization is working actively to implement and continually improve its EMS. The concept behind transaction testing is that, just as an organization's activities are linked throughout the entire biosolids value chain, the elements of the EMS are linked. Transaction testing ensures that various elements of the EMS are functioning in coordination. For example, if internal audits are being conducted (as required in Element 16), have the associated identified corrective actions been implemented (as required in Element 14)? The *EMS Elements* include a number of linkages such as this.

Another way of looking at transaction testing of the linkages between EMS elements is to examine certain changes or events that should trigger a response from the EMS. By tracing how an organization's EMS responds to a transaction or triggering event, the auditor can better identify and assess gaps or weaknesses. Examples of transactions and triggering events include the enactment of a new regulation or requirement, the installation of new equipment, a change in personnel, a spill of biosolids material, or an odor complaint by a local resident.

Auditors have substantial latitude in selecting when and how they use transaction testing. In most cases, the auditor would use a transaction test to confirm that the organization's documented system or procedure is operating as intended and documented in the EMS. The auditor might select a particular transaction or triggering event (e.g., a change in biosolids land application personnel, a complaint documented in the organization's complaint log, or a past compliance violation), and track it through the organization to see how the various components of the EMS responded. In particular, the auditor should be interested to discern answers to the following questions.

- Did the transaction or triggering event cause all relevant management system activities to occur as intended in the organization's EMS?
- If the triggering event was associated with an undesirable outcome (e.g., public complaint, compliance violation, adverse environmental impact), was the incident responded to as intended by the EMS, and, did the EMS prompt appropriate actions to prevent recurrence of the undesirable outcome?

Further examples transaction tests are provided in the table following.

Transaction Test	Potential EMS Interactions
<p><u>Existing regulatory requirement</u> - Identify an applicable regulatory requirement and determine if it has been incorporated into various elements of the EMS. Auditors may wish to give particular emphasis to requirements that result in frequent violations. If the facility had a past compliance violation, it may be appropriate to target that requirement.</p> <p>[The auditor should also try to understand what factors caused any past violations, so they can transaction test areas where the EMS failed in the past.]</p>	<ul style="list-style-type: none"> • Has the applicability of the requirement been identified and documented? (Element 4) • Have roles and responsibilities for addressing the requirement been assigned and communicated? (Element 7) • Have procedures and practices for addressing the requirement been developed and implemented? (Elements 10 and 13) • Are records related to the requirement complete and organized? (Element 12)
<p><u>New or modified regulation</u> - Identify a recent or modified regulation or requirement applicable to the facility. Track that new or changed requirement through the system to determine if the EMS elements have been adjusted accordingly.</p>	<ul style="list-style-type: none"> • Has the organization identified a new or changed requirement? (Element 4) • Has the organization evaluated and documented the applicability or non-applicability of the regulation or requirement? (Element 4) • Have operational controls been developed, documented, and implemented to address the newly applicable requirement? (Element 10) • Have the EMS Manual and related documents been updated to address the new requirement? (Element 1) • Have roles and responsibilities for implementing the procedure/ addressing the requirement been assigned and communicated? (Element 7) • Have appropriate monitoring and measurement activities been instituted to address the requirement, if appropriate? (Element 13) • Have record keeping requirements been followed? (Element 12) • Has the facility satisfied its compliance obligations related to the requirement? • Has the organization made information on the applicability of this requirement available to the public? (Element 9)

Transaction Test	Potential EMS Interactions
<p><u>Equipment or process change</u> - Investigate how a new piece of equipment or process line was integrated into facility operations and the EMS.</p>	<ul style="list-style-type: none"> • Has the EMS Manual, including documentation of critical control points and operational controls, been updated to address the equipment or process change? (Elements 1, 3, and 10) • Has the organization identified potential and actual environmental impacts associated with the equipment or process change? (Element 3) • Have SOPs been prepared or revised to address the equipment or process change? (Element 10) • Have appropriate personnel been trained on the equipment or process and associated environmental management responsibilities? (Element 8) • Have emergency response plans and procedures been modified (if necessary) to address the equipment or process change? (Element 11)
<p><u>Contractor Operations</u> - Identify existing contractor operations and track them through the system. (Note: a similar transaction test could be conducted for new or changed contractor operations.)</p>	<ul style="list-style-type: none"> • Are environmental roles and responsibilities assigned and communicated to contractors? (Element 7) • Are contractors appropriately trained to perform their environmental responsibilities? (Element 8) • Is this training documented and tracked? (Element 8) • Does the contractor sufficiently understand its responsibilities to perform its tasks in a manner consistent with the EMS and <i>Code of Good Practice</i>? (Element 8)
<p><u>Accidental spill or release</u> – Track an accident spill or release to see how the system responded.</p>	<ul style="list-style-type: none"> • Did the organization respond to the spill or release according to its procedures? Were emergency response plans followed? Were response actions appropriate to the type and scale of incident? (Element 11) • Were personnel appropriately trained for response? (Element 8) • Was the appropriate response equipment available? (Element 11) • Were regulatory notification, reporting and record keeping requirements followed? (Element 12) • Did the organization engage a root cause analysis and/or continuous improvement process to learn from the incident and prevent future occurrences? • Have any associated process upset or equipment failure conditions been documented in appropriate logs and addressed through corrective actions to prevent recurrence? (Element 14)

Transaction Test	Potential EMS Interactions
<p><u>Public inquiry or complaint</u> - Track a public complaint or inquiry through the system.</p>	<ul style="list-style-type: none"> • Did the organization process the inquiry or complaint in accordance with its documented procedure? (Element 9) • Did the organization acknowledge receipt of the inquiry or complaint and/or respond in a timely manner? (Element 9) • Were appropriate personnel sufficiently trained to respond to the inquiry or complaint? (Element 8) • Was the inquiry or complaint documented or recorded appropriately? • Is management sufficiently aware of potential public concerns raised by the inquiry or complaint? • Has the inquiry or complaint been considered (along with others) in the organization's periodic review of EMS goals and objectives?

4.5.3 Examining Outcomes

The third method of testing available to auditors is examining outcomes, which allows an auditor to verify that an organization’s EMS is functioning as intended and producing desired outcomes.

The NBP *Code of Good Practice* is a broad framework of goals and commitments to guide biosolids management activities. Those who embrace the Code and participate in the NBP EMS Program commit to “do the right thing.” Code subscribers and NBP EMS Program participants pledge to uphold the 10 principles in the Code, which are focused on a commitment to quality practices and operations, as well as quality outcomes.

Although this is a systems-based program, the NBP believes that public acceptance will ultimately depend on the ability of the NBP and individual program participants to demonstrate that the EMS produces better compliance, better environmental performance, good management practices, and improved relations with interested parties. Therefore, the NBP has identified four areas where it has defined specific, auditable expectations for examining outcomes as important indicators of EMS health (e.g., “outcomes matter”). These four areas include: environmental performance; regulatory compliance; relations with interested parties; and quality biosolids management practices. Performance outcomes relate to the commitment to continual improvement in all aspects of biosolids management. The *EMS Elements* require that environmental performance goals and objectives must be established and evaluated to identify potential areas for improvement. Regulatory compliance outcomes are important to assure that utilities are attentive to and successful in their efforts to meet compliance obligations. To achieve the outcome of improved relations with interested parties, and ultimately public acceptance of biosolids management practices, utilities must be seeking and creating meaningful opportunities for public participation in the planning, implementation, and auditing of the EMS. And finally, a facility must demonstrate a strong commitment to the utilization of quality biosolids management practices as dictated by the *Code of Good Practice* and captured in the *National Manual of Good Practice*.

The *EMS Elements* (Element 5) require that goals and objectives for environmental performance reflect identified priorities for improving environmental performance of biosolids management activities based on critical control points, identified or potential environmental impacts, legal and other requirement, and

applicable best management practices as defined in the *National Manual of Good Practice* and various authoritative sources on biosolids management.

To demonstrate continual improvement in each of the four outcome areas and meet the requirements for Element 5, utilities participating in the NBP EMS program should establish measurable goals and objectives that document the improvement in each of the four outcome areas. An organization's progress in meeting these goals and objectives should then be evaluated by auditors as part of the interim audits that take place to ensure that the organization's EMS continues to meet all the elements of the NBP program.

For example, in the area of relations with interested parties, an organization might agree to expand the range of interested parties that it involves in its EMS, over and above those parties that were involved as the EMS was initially developed. In the area of regulatory compliance, an organization that had regulatory violations in the past would commit to reduce and ultimately eliminate these violations. Another way to demonstrate a commitment to regulatory compliance could involve reducing the amount of regulated pollutants in its biosolids, over and above those amounts currently used to demonstrate compliance with applicable Federal or State regulatory requirements. In the area of best practices for biosolids management, an organization might set a goal to adopt a new practice for detecting and reducing odors. An example of an environmental performance goal could be to reduce energy consumption.

The NBP believes that these four outcomes are critical indicators of the that degree an organization's EMS is functioning as intended and conforms to the NBP EMS program's expectations and goals defined by the *Code of Good Practice*. Auditors must note, however, that failure to achieve desired outcomes does not necessitate nor in and of itself constitute a finding of system nonconformance. Rather, the NBP has determined that past and current outcomes related to environmental performance, regulatory compliance, relations with interested parties, and quality biosolids management practices shall be used by auditors to identify potential areas of weakness in an organization's EMS. For example, the presence of past compliance violations or public complaints shall prompt the audit team to explore how the organization and its EMS responded to the performance outcome. The NBP does not expect that an organization would never have performance problems. However, the NBP expects (and auditors shall base verification determinations on the evidence) that organizations respond actively to such performance problems and seek to prevent the performance problem from recurring. The NBP expects that audit reports will explicitly identify the outcomes examined and the relationship they have to system health or deficiencies.

4.5.4 Environmental Performance

Consistent with the principle that “outcomes matter,” NBP EMS auditors shall examine the organization's progress towards identified priorities for improving environmental performance, as reflected in the biosolids organization's established goals and objectives, as one potential indicator of EMS health.

Through the *EMS Elements*, an organization is required to identify biosolids program goals and objectives. The NBP defines biosolids program goals as “environmental performance improvement goals that are consistent with the organization's biosolids management policy to assure biosolids management activities comply with applicable laws and regulations, meet quality and public acceptance requirements, and prevent other unregulated adverse environmental and public health impacts by effectively managing all critical control points.” The NBP defines biosolids program objectives as “detailed environmental performance improvement requirements, based on a biosolids program goal.”

The NBP believes that an auditable commitment to performance is critical to fostering credibility with interested parties and to achieving the ultimate goal of publicly accepted biosolids management practices. While the NBP considered the possibility of establishing specific, auditable environmental performance minimums as a basis for NBP EMS program participation, this prescriptive approach was rejected as too inflexible and infeasible. The NBP believes strongly, however, that the ability of the NBP and individual program participants to demonstrate that the EMS produces meaningful environmental performance improvements is critically linked to the program's public acceptance objectives. The NBP's approach builds on the *Code of Good Practice* commitment to continual improvement - "To seek continual improvement in all aspects of biosolids management" - and looks to ensure that NBP participants focus not just on EMS processes and procedures, but on environmental outcomes as well.

Examining Environmental Performance Outcomes

Auditors shall examine the organization's progress towards identified priorities for improving environmental performance, as reflected in established goals and objectives, as one potential indicator of EMS health. If an auditor detects a pattern of lack of improvement with respect to those environmental performance-related goals and objectives, the auditor shall interpret this as an indicator that the organization's EMS is potentially failing to meet the NBP EMS Program expectations to promote environmentally sound biosolids management practices and the organization's commitment to continual improvement. The auditor shall examine the organization's EMS to determine if the cause for lack of continual improvement constitutes a system nonconformance. For example, the cause may be that certain operational controls tied to those environmental improvements have not been implemented or that management reviews are not taking place as necessary to address the possible need for changes to the policy, the goals and objectives, the biosolids management program, or other EMS elements.

Auditors shall recognize that some environmental performance goals and objectives may require long-term planning and investment of resources. Auditors shall also recognize that organizations may focus goals and objectives only on certain environmental impacts at one time, while environmental performance objectives for others may be to maintain current performance levels (assuming that regulatory and public acceptance requirements for biosolids are being met).

In examining environmental performance outcomes, an auditor shall expect that an organization has:

- Identified potential environmental impacts associated with the organization's identified critical control points, with respect to the entire biosolids value chain (requirement 3.2);
- Established environmental performance goals and objectives that reflect the organization's identified environmental impacts and related critical control points (requirement 5.2);
- Provided interested parties with meaningful opportunities to express views and perspectives relative to biosolids management activities, including concerns about environmental impacts, biosolids program performance, and potential areas for improvement (requirement 6.4)
- Considered input from interested parties in initially developing program goals and objectives during EMS implementation and in updating them as part of periodic review of biosolids management program performance (requirement 6.5);
- Developed and implemented standard operating procedures, work management practices or other appropriate methods at all critical control points throughout the biosolids value chain to effectively manage potential environmental impacts (requirement 10.1);

- Established and maintained regular monitoring and measurement procedures and practices for all biosolids management activities to measure biosolids program performance at critical control points and track progress toward achieving program goals and objectives (requirement 13.1);
- Completed a periodic written Biosolids Management Program Performance Report (at least annually), summarizing the organization's progress toward achieving its biosolids program goals and objectives (requirement 15.1);
- Established and maintained an internal audit program to periodically analyze the EMS for biosolids and determine whether it is effectively meeting its biosolids management policy, program requirements and biosolids program goals and objectives (requirement 16.1); and
- Reviewed the EMS and its performance relative to policy commitments, goals, objectives and established performance measures to ensure its continuing stability, adequacy and effectiveness and addressed the possible need for changes to policy, the goals and objectives, the biosolids management program and other EMS elements based on internal EMS audit results, external verification EMS audits by third parties, changing circumstances, and the commitment to continual improvement (requirement 17.1).

4.5.5 Regulatory Compliance

Consistent with the principle that “outcomes matter”, NBP EMS auditors shall examine the organization’s performance in meeting legal requirements (regulatory compliance) as one potential indicator of EMS health.

The third party EMS verification audits are not intended to be regulatory compliance audits that verify whether or not an organization is complying with all applicable regulatory and legal requirements. The NBP believes that a systems audit, which verifies the existence of a robust EMS, provides an equal, and potentially better, indication of an organization’s commitment to meeting and going beyond regulatory compliance obligations on an ongoing basis than a regulatory compliance audit, which looks only at a given point in time. However, the NBP believes that the compliance status of an organization can provide an indication of how well the organization’s EMS enables it to manage operations within established parameters.

The NBP recognizes the importance of improving public confidence in regulatory compliance assuredness. Through the *Code of Good Practice*, organizations are required to pledge “To commit to compliance with all applicable federal, state, and local requirements.” Consistent with a systems audit approach, auditors should determine that a robust compliance management system is in place that effectively identifies and tracks regulatory compliance obligations, proactively identifies potential regulatory compliance issues, assures effective implementation of applicable compliance activities, quickly detects regulatory compliance problems, and addresses regulatory compliance problems in a timely fashion. The NBP expects biosolids organizations to establish a procedure for identifying and tracking legal (federal, state, and local) and other requirements applicable to the organization’s biosolids management activities to provide the basis for the NBP, auditors, and individual program participants to assure interested parties that the EMS is effectively complying with regulatory requirements. The procedure shall include a management process to incorporate changes and new requirements into the organization’s EMS.

Examining Regulatory Compliance Outcomes

NBP EMS auditors shall examine the organization's performance in meeting legal requirements (regulatory compliance) and regulatory compliance-based goals and objectives as potential indicators of EMS health.

Auditors shall review documentation containing regulatory compliance information, such as recent regulatory inspection reports and annual biosolids reports, and gather other objective evidence about selected regulatory compliance endpoints. Auditors are encouraged to contact biosolids regulators as part of the process of gathering compliance information, keeping in mind that the EMS audit will not contain a statement of compliance status. Auditors shall review EMS documentation to verify that the organization has established a procedure for identifying and tracking legal (federal, state, and local) and other requirements applicable to the organization's biosolids management activities. The procedure shall include a management process for incorporating changes and new requirements into the organization's EMS. Auditors shall record in the audit report, that the organization has established and maintained records of applicable legal and other requirements (assuming that this has in fact been done). As well, auditors shall provide in their audit report a statement, based on the review of documentation and direct observation of selected regulatory compliance endpoints, as to the adequacy of the management system in meeting the organization's commitment to regulatory compliance. If an auditor detects a pattern of the organization failing to meet compliance obligations, or failing to make continual improvement toward compliance-based goals and objectives, the auditor shall examine the organization's EMS to determine if the cause is a system nonconformance. For example, the cause may be that certain measuring and monitoring activities have not been implemented or that roles and responsibilities for key activities related to meeting compliance have not been clearly assigned.

Areas of past noncompliance can point to places that an auditor should examine during an EMS verification audit. Through transaction testing, auditors can explore how well the organization's EMS, through its corrective and preventive action plan, has responded to the noncompliance situations. In the presence of a well-functioning EMS, the auditor should detect the implementation of controls and practices to prevent recurrence of noncompliance situations.

Auditors shall recognize that even the most well run organization may occasionally experience conditions that result in a non-compliant situation and that what the NBP believes is important is if the organization responds in a timely and appropriate manner to instances of potential regulatory noncompliance.

In examining regulatory compliance outcomes, the auditor shall expect that the organization has:

- Established a procedure for identifying and tracking legal (federal, state, and local) and other requirements applicable to its biosolids management activities (requirement 4.1);
- Reflected, in program goals and objectives, legal and other requirements (requirement 5.2);
- Incorporated all legal and other adopted requirements in the operational controls of critical control points (requirement 10.2);
- Established and maintained regular monitoring and measurement procedures and practices for all biosolids management activities to assure compliance with applicable legal and other requirements (requirement 13.1);

- Developed and implemented a procedure to investigate any noncompliance with applicable regulatory requirements identified during routine monitoring and measurement or periodic internal EMS audits (requirement 14.1);
- Developed and implemented a procedure to document the necessary corrective actions taken to prevent a recurrence (requirement 14.3);
- Established formal corrective action plans to address findings of internal EMS audits and audits conducted by third parties, and documented corrective action plans describing what actions will be taken to address the audit findings, the individuals responsible, the estimated completion date, and required resources to develop and implement corrective and preventive action (requirement 14.5); and
- Established and maintained an internal audit program to periodically analyze the EMS for biosolids and determine whether it is effectively meeting its biosolids management policy, program requirements with and biosolids program goals and objectives (requirement 16.1).

4.5.6 Relations with Interested Parties

Consistent with the principle that “outcomes matter”, auditors shall examine the state of the organization’s relationships with interested parties as one potential indicator of EMS health.

The NBP does not expect that an organization’s relationships with interested parties will be positive all of the time. Organizations are not required, as a basis for program participation, to resolve the concerns of all interested parties. The NBP acknowledges that there can always be parties who are not satisfied that their concerns have been addressed or parties who are fundamentally opposed to certain biosolids management practices, regardless of the organization’s environmental performance or how active and meaningful the public participation effort has been.

Rather, the NBP believes that setting up quality, two-way flows of information between interested parties and participating organizations is critical to the program’s goal of publicly accepted biosolids management practices. “Two-way flows of information” means that information flows from interested parties in to the participating organization such that the organization has the capacity to understand the concerns and perspectives of interested parties. Requirements for how participating organizations must establish information flows into the organization from interested parties are primarily covered under Element 6, Public Participation in EMS Planning, and Element 9, Communications. As well, two-way flows of information means that information on the organization’s EMS and biosolids management program flows to interested parties. Requirements for how participating organizations must establish information flows out from the organization to interested parties are primarily covered under Element 9 Communications. Also, the *Code of Good Practice* commits organizations to “provide methods of effective communications with gatekeepers, stakeholders, and interested citizens regarding the key elements of each environmental management system, including information relative to system performance.”

The NBP expects that there will be substantial local tailoring of public participation plans and that organizations will remain fully in control of the decisions they make once interested party perspectives are understood. Organizations have the flexibility to choose a set of public participation and communication activities that best meet their local needs. Most biosolids management organizations employ a variety of successful public participation and communication mechanisms, and the NBP believes that many of those mechanisms are sufficient to meet program requirements.

Examining Relations with Interested Parties

Auditors shall examine the state of the organization's relationships with interested parties as one indicator of EMS health. For example, if, during EMS document review, an auditor encounters a pattern of repeated written public complaints, the auditor shall interpret this pattern as an indicator that the organization's EMS is failing to support the NBP EMS Program goal of promoting publicly accepted biosolids management practices. The auditor should examine the organization's EMS to determine if the cause of the pattern of consistent complaints derives from a system nonconformance. It could be that the failure to resolve complaints resulted from the organization's corrective action system functioning inadequately. In this context, however, auditors shall not judge the validity of interested party perspectives, nor shall they expect an organization to have accommodated all perspectives.

Auditors shall recognize that some organizations are implementing public participation programs for the first time, as part of participation in the NBP EMS Program. Where this is the case, it is possible that the state of relationships with interested parties may actually appear to worsen as the public participation program is implemented. For example, this can be reflected by the number of negative comments actually rising, as opportunities for comments may not have been provided in the past. It is also possible that the lack of past negative comments was the result of interested parties not knowing about the organization's biosolids management practices (e.g., lack of negative comment does not necessarily equal public acceptance), and thus negative comments appear to rise as the program is implemented.

Auditors shall also take into consideration the maturity of the organization's biosolids management program. For example, a well established and accepted program may, at its outset, have conducted substantial public education and involvement efforts, but now is maintaining ongoing, targeted relationships with individual community members or groups.

In examining the state of relationships with interested parties, the auditor shall expect that the organization has:

- Selected an implemented a proactive public participation approach to involve interested parties in its Biosolids Management Program and EMS planning process (requirement 6.1);
- Reflected, in the selected approach, the organization's commitments to the ten principles of the *Code of Good Practice*, including a plan for independent third-party verification of conformance with the *EMS Elements* (requirement 6.2);
- Selected an approach that is consistent with the degree of current public interest, history of public involvement, method of biosolids management, and related local circumstances (requirement 6.3);
- Provided interested parties with meaningful opportunities to express views and perspectives relative to biosolids management activities, including concerns about environmental impacts, biosolids program performance, and potential areas for improvement (requirement 6.4);
- Considered input from interested parties in initially developing program goals and objectives during EMS implementation and in updating them as part of periodic review of biosolids management program performance (requirement 6.5);

- Established and maintained a proactive communications program that provides ongoing information about the Biosolids Management Program and EMS to interested parties and the public (requirement 9.1);
- Developed and followed a procedure for receiving and responding to inquiries and requests for information from interested parties (requirement 9.2); and
- Made information about the biosolids management program activities and EMS available to interested parties (requirement 9.3).

In conducting the audit, the auditor shall primarily rely on EMS documentation and interviews with employees to verify public participation and communications actions. However, the auditor, after consultation with the organization, can interview interested parties as necessary to verify the adequacy of an organization's actions.

4.5.7 Quality Biosolids Management Practices

The NBP believes that an auditable commitment to best practices is a key link to credibility with interested parties and achieving the NBP's goal of publicly accepted and environmentally sound biosolids management practices. The *Code of Good Practice* commits organizations to implement "good housekeeping practices for biosolids production, processing, transport, and storage, and during final use or disposal operations", and to "sustainable, environmentally acceptable biosolids management practices and operations." As such, the NBP requires that, in selecting biosolids management practices, an organization has considered and, to the extent applicable and practicable, utilized the best practices identified in the *National Manual of Good Practice* and other recognized sources as identified by the organization (requirement 10.3).

Examining Quality Biosolids Management Practices

Auditors shall examine biosolids management practice selection in the following manner.

- The auditor shall examine identified critical control points and associated operation controls in light of the *National Manual of Good Practice*, operating under the presumption that the organization knows best which practices to select for its operation. (required by Elements 3 and 10)
- The *National Manual of Good Practice* intends to be "practice neutral": it provides management practices for all wastewater solids and biosolids management alternatives. Thus, auditors shall look only at those critical control points and associated operational controls that are relevant to the given organization and its biosolids final use or disposal.
- The auditor shall presume that choices on practice selection are not made "in a vacuum" and can be influenced by local political and economic situations. Thus, local tailoring of practice selection is necessary and appropriate.
- If an organization adopts practices that appear inconsistent with the *National Manual of Good Practice*, the auditor shall ask the organization to explain if the practices are inconsistent and why. Inconsistencies with the *National Manual of Good Practice* would not necessarily prevent verification if a suitable explanation is provided. However, an auditor could, if they believed the organization's choices did not adequately reflect the NBP's expectations for promoting

environmentally acceptable biosolids management practices and that the organization's explanation for inconsistencies with the *National Manual of Good Practice* were not suitable, identify this as a system nonconformance.

CHAPTER 5: Reporting, Appeals, Internal Audits, Interim Audits, and Re-Verification Audits

This chapter describes those activities that occur after the initial verification audit has been completed.

5.1 Post-Audit Activities and Reporting

5.1.1 Draft Audit Report Review

Within two weeks of completing the audit, the lead auditor shall make an EMS verification recommendation and prepare working draft audit summary and detailed findings reports. The audit summary report shall reflect the results of the audit, including areas of strength and weakness, any nonconformances identified, and the auditor's draft verification recommendation. The auditor shall not make any compliance determinations. All findings of major and minor nonconformance in the draft audit report shall explicitly cite the relevant element in the *Elements of an Environmental Management System for Biosolids (EMS Elements)*. The format and contents of the detailed audit findings report are below. The auditor shall provide the document labeled consistent with local public disclosure protections (e.g., deliberative or working draft) to ensure that the organization can hold it as confidential as desired. This review allows the organization to ensure the technical accuracy of audit findings and develop observations for inclusion in the final summary and detailed audit reports.

During this review period, before the report becomes final, the agency may seek the NBP staff help in resolving minor nonconformances that appear to be based on an auditor's interpretation of the requirements of the EMS Elements that does not match up with the agency's interpretation. Agencies requesting such staff involvement should contact Eugene DeMichele c/o Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314. Depending on the nature of the request, the NBP staff may request supporting documentation.

After the organization has reviewed the draft reports and prepared any observations, the auditor shall prepare final audit summary and detailed audit reports, attach the organization's observations, and submit all of the documents simultaneously to the organization and the NBP.

5.1.2 Developing a Four-Year Interim Audit Plan

The need for ongoing interim and internal audits shall be discussed by the organization and the Lead Auditor during the audit exit meeting at the end of the verification audit, as well as at the conclusion of each third party interim audit. After the verification audit is complete, the organization and the Lead Auditor shall develop an agreed-upon interim audit plan, including the EMS elements that will be reviewed in the interim audits during the ensuing four years of the five-year audit cycle. In the plan, the biosolids organization should indicate its intent to substitute internal audits in eligible years (e.g., years 2 and 4 for first five-year verification cycle). Thus, the organization shall always know in advance if a third party interim audit shall need to be conducted during the coming year. During these discussions, the biosolids organization and the third party auditor should also cover any changes to operations anticipated in the coming year that could affect the EMS. Changes to operations that should be discussed include those that would require changes to the identified critical control points or environmental impacts associated with the critical control points.

5.1.3 Correcting Minor Nonconformances

The NBP expects that the audited organization will make a commitment to correcting minor nonconformances in a timely fashion. The NBP defines timely as 30 days. However, the NBP acknowledges that biosolids organizations may not be able to fully correct some minor nonconformances within 30 days. For example, if a minor nonconformance was cited for failure to include the EMS policy in the training program, the organization could make changes to the training program materials right away. However, actually conducting all of the required trainings in the program with the new information could take several months. As such, the NBP requires that the organization to develop an action plan and agreed-upon time frame with the Lead Auditor for correcting minor nonconformances. The action plan must be developed within 30 days of the audit in which the minor nonconformances were identified. The Lead Auditor must review and approve the action plan, including proposed timeframes, for correcting minor nonconformances. The Lead Auditor will review the effectiveness of action taken to correct minor nonconformances, and will expect that nonconformances have been corrected, no later than at the next interim audit.

Only an NBP third party auditor may close out - or verify correction of - a minor nonconformance identified during a third party verification or third party interim audit. The third party auditor does not necessarily need to come on-site to close out all minor nonconformances. Auditors are encouraged to close out minor nonconformances via a desk review whenever possible. When an on-site examination is required to verify that a minor nonconformance has been corrected, auditors are encouraged to verify the corrective action during the next, planned on-site visit and avoid an additional on-site trip at additional cost to the biosolids organization. When on-site examination is required sooner than the next planned visit, the auditor may conduct a short, on-site visit. This visit does not need to be part of an interim audit. An auditor can close out minor nonconformances via a short visit in a year when an organization chooses to substitute an internal audit for the third party interim audit. Thus, the auditor visit does not prevent a biosolids organization from substituting with the internal audit.

5.1.4 Audit Report Contents

The audit report shall contain the following information.

- | | |
|-------------------------|---|
| Title Page | <ul style="list-style-type: none"> • Heading: National Biosolids Partnership EMS Audit Report • Organization's name and address • Audit team members' names and roles • References: <ul style="list-style-type: none"> ○ NBP <i>Elements of an Environmental Management System for Biosolids (EMS Elements)</i> ○ Organization's environmental policy and environmental management system • Date issued • Date revised • Signatures of organization representative and lead auditor with date |
| Body of Document | <ul style="list-style-type: none"> • Attendance sheets for entrance and exit meetings • List of any final use and disposal operations included in the audit • Pre-audit document review summary <ul style="list-style-type: none"> ○ List of documents reviewed citing any strengths and weaknesses |

- List of requirements for documentation taken from *EMS Elements* along with references to relevant organization documents that meet each of the requirements
- Finding sheets indicating areas of strengths and weaknesses, outcomes examined, and any nonconformances with the requirements as identified in the *EMS Elements*, including a description of the nonconformance and if major or minor
- Auditors' determination regarding EMS verification
- Organization's observations

5.1.5 Notification of Change

When an organization makes a change to its EMS or to its biosolids management activities after having received EMS verification, the auditor shall expect to receive written notification from the organization about the change(s), as required by Element 3. The auditor shall then need to make a determination if the nature of the change(s) warrants additional audit activity prior to the next scheduled third party interim or re-verification audit. Auditors shall also note that organizations who have received NBP EMS verification may voluntarily request additional audit activity in response to such situations as a change in EMS and/or biosolids management activities or public concerns about the validity of its EMS verification.

Auditors are encouraged to examine EMS and operational changes during the next, planned on-site visit and avoid an additional on-site trip at an additional cost to the biosolids organization. When on-site examination is required sooner than the next planned visit, auditors may conduct a short visit to verify the EMS has incorporated the changes, as appropriate. This visit does not need to be part of an interim audit. Thus, an auditor can still verify changes in a year where an organization substitutes in internal audit: the visit to verify changes does not prevent an organization from substituting the internal audit.

The following are examples of changes that an organization should communicate to the NBP and its third party auditor.

- Change in scope of the EMS
- Organizational change involving top management and/or EMS management responsibilities
- Changes to or addition of new facilities or operations that cause changes in critical control points
- Changes to or addition of new facilities or operations that cause changes in potential environmental impacts
- Addition of a new contractor or expanded role of an existing contractor
- Change in relations with interested parties that cause the communications program to change
- Other changes to biosolids management practices that the biosolids organization feels need to be included in an audit

However, not all changes listed above would necessarily warrant additional on-site audit activity by the third party auditor. For example, a change in EMS Coordinator on its own should not trigger additional on-site auditing. However, an auditor might determine that the combination of a change in EMS Coordinator along with changes in operations or contractors warrants additional auditing. Thus, the NBP has provided for auditor judgment in determining what kind of change warrants additional auditing, as well as examples to illustrate changes to be communicated between the certified agency and the auditor.

5.1.6 Maintaining Program Status

To retain NBP EMS program certification status, an organization must meet the following criteria.

(Please see section 1.4.2 for the steps involved in NBP Program Certification. EMS verification is the last required step.)

- **Reporting** - Consistent with EMS elements 9 and 15, a biosolids organization must make available to the public (including interested parties) its annual Biosolids Management Program Performance Report and a detailed report of the independent, third party EMS audit results. The Biosolids Management Program Performance Report must contain the following: summaries of monitoring, measurements, and other results that demonstrate the performance of the biosolids program relative to its goals, objectives, and legal requirements; summaries of performance relative to other voluntary adopted requirements; the organization's progress toward achieving its biosolids program goals and objectives; and a summary of the most recent independent third party EMS verification or interim audit results. In essence, not only will failure to meet these reporting requirements constitute a major nonconformance of the EMS, it will constitute a basis for termination of NBP certification. Certified agencies should submit a copy of their Biosolids Management Report to NBP annually to ensure this requirement has been met.
- **EMS Conformance** – Certified program participants must maintain conformance of their EMS with the *EMS Elements*, as demonstrated through the audit process of verification, interim, and internal audits.

Rather than identify an exhaustive list of criteria or situations that could lead to the revocation of certification, the NBP Steering Committee has the discretion to revoke certification of program participants to address unforeseen or extraordinary circumstances. Some environmental verification initiatives have established criteria requiring that organizations found guilty of committing an environmental crime be immediately removed from the program. However, rather than attempting to define specific criteria such as these or others, the NBP Steering Committee will make determinations on an as needed basis about whether conditions at or action undertaken by a biosolids organization risk undermining the credibility of the NBP EMS Program and therefore justify revoking the certification.

5.2 Interim Audits

To provide program credibility, regular interim audits conducted on-site by the independent third party auditor must occur between re-verification. Interim audits focus on ensuring “system health” (i.e., that the system is doing what it is supposed to) in between verification audits.

The NBP schedule of audits is based on a five-year cycle. The initial third party verification audit takes place in year 0, third-party interim audits are required in years 1 and 3, and the biosolids organization has the option of substituting internal audits in years 2 and 4 (see section 5.2.2 for the full audit schedule, including years 5 and on). Because of the potential changes in an organization's staff, policies and procedures over time, regular audits are common practice. Because interim audits only look at a part of the EMS, they are typically less resource intensive than full verification audits. Initial data points suggest that interim audits may cost roughly 1/3 of the year 0 verification audit.

Biosolids organizations arrange for an interim audit by completing an interim audit request form and submitting it to the NBP. The interim audit request form shall include: the organization's NBP EMS verification anniversary date; documentation describing major changes made to the EMS since the last third party audit; preventive and corrective action requests and responses since the last third party audit; documentation describing how nonconformances have been corrected since the last third party audit; and documentation of notification to interested parties about the intent to receive an audit and discussion about approaches to observe the audit. Interim audits should be completed before the organization's

anniversary date, to avoid any lapse in program participation. Certified agencies will need to submit an interim audit request form to NBP to trigger the NBP to work with the audit company to develop costs and scope for the interim audits. For those certified agencies choosing to conduct an internal audit in lieu of a third party interim audit, an audit request form must be submitted to indicate the organization’s intent on substituting the internal audit for that particular year.

5.2.1 Interim Audit Scope

Individual interim audits cover only a portion of the EMS. However, over the course of the four interim audits conducted between verification audits, the entire EMS (i.e., all 17 elements) must be covered.

Each third party interim audit must 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 action requests. The Lead Auditor shall determine if direct observation of all treatment works that produce biosolids is necessary during the third party interim audit.

5.2.2 Substituting Third Party Interim Audits with Internal Audits

Organizations may choose to substitute internal audits for third party interim audits in two years of the five-year verification cycle, provided the results of the internal audits are fully publicly disclosed and the independent, third party audit is not needed to ensure proper system functioning and health. During years in which an organization chooses to substitute internal audits for third party interim audits, the organization must report on system conformance with the *EMS Elements* by providing the NBP with a copy of the internal audit report. This option to substitute internal audits is designed to reduce the burden on staff resources and lower overall audit costs. Biosolids organizations may choose to have the internal audits conducted by biosolids organization personnel or by an independent party (for example, paid audit consultants). If an audit consultant is utilized, the report must have the biosolids organization’s name and not refer to a consultant’s document or recommendation.

The pattern for verification and interim audits is as follows.

Year 0 - Verification audit	Year 5 - Re-verification audit (same as yr. 0)
Year 1 - Interim audit (third party required)	Year 6 - Interim audit (third party <i>optional</i>)
Year 2 - Interim audit (third party <i>optional</i>)	Year 7 - Interim audit (third party required)
Year 3 - Interim audit (third party required)	Year 8 - Interim audit (third party <i>optional</i>)
Year 4 - Interim audit (third party <i>optional</i>)	Year 9 - Interim audit (third party required)

Note that the timing of optional years for substituting an internal audit for a third party interim audit shifts after year 5. Internal audits may be substituted in the year immediately following the year 5 re-verification audit. For years ten and on, the verification and interim audit cycle matches that from years 5 through 9.

Substituting the third party interim audits in years 2, 4, 6, 8, etc. with internal audits shall be based on system performance from the previous audit. Thus, the third party auditor may require a third party interim audit if system performance in the previous audit indicated a need for a re-visit the following year. For example, the auditor may require a third party interim audit if one or more major nonconformances were found during the previous third party audit, or if the biosolids organization did not develop action plans to correct one or more minor nonconformances found during the previous third party audit.

The need for ongoing interim and internal audits shall be discussed by the organization and the Lead Auditor during the audit exit meeting at the end of the verification audit, as well as at each third party interim audit. The biosolids organization and the Lead Auditor shall develop an agreed-upon interim audit plan, including the EMS elements that will be reviewed in the interim audits during the ensuing four years of the five-year audit cycle. In the plan, the organization should indicate its intent to substitute internal audits in eligible years (e.g., years 2, 4, 6, 8, etc.). Thus, the biosolids organization shall always know in advance if a third party interim audit shall need to be conducted during the coming year. During these discussions, the biosolids organization and the third party auditor should also cover any changes to operations anticipated in the coming year that could affect the EMS. Changes to operations that should be discussed include those that would require changes to the identified critical control points or environmental impacts associated with the critical control points.

When substituting for a third party interim audit, the internal audit must 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 action requests.

5.3 EMS Re-Verification Audits

Re-verification audits shall occur every five years and have the same scope and format as the initial verification audit. Re-verification audits must be completed before the fifth anniversary to avoid any lapse in program participation.

5.4 NBP EMS Program Designation

Organizations that successfully complete the third party EMS verification audit and receive NBP EMS Program certification are granted permission to use the NBP EMS program designation in the form of a designation statement and visual indication of certification (label or seal) in the following specific places.

- Signs in front of facilities
- Signs at the perimeter of land application sites
- Signs on trucks transporting biosolids
- Plaques or certificates of participation displayed at facilities
- Facilities letterhead
- Rate Payer newsletters or notices
- Web sites
- Written, educational, or informative materials

If a NBP EMS Program participant identifies and requests a new place to apply the program designation that is not on the identified list, the NBP Steering Committee will address these on a case-by-case basis with recommendations from the EMS Appeals Board.

The program designation must not be used as a biosolids product label. The NBP believes that allowing a program designation label or sign directly in or on biosolids material could be misleading to the public who might believe that the label is an indicator of independently tested and certified product quality rather

than of a material that emerges from a verified management system. The program designation may not be used on a bagged biosolids product or on signs in contact with piles of or land applied biosolids material. Signs that are nearby, but not actually touching the biosolids material in storage piles or on land application sites (e.g., at the perimeter or land application sites) that are under the management of the organization's EMS would be permissible.

The NBP does allow all certified program participants to use the program designation at all management points and associated infrastructure along the entire biosolids value chain and their span of control covered by the EMS. Trucks hauling biosolids material covered under the certified participant's EMS are a management point under the EMS (i.e., transportation is identified as a critical control point in the *National Manual of Good Practice*) and are acceptable places for the NBP program designation. Consistent with this approach, the program designation cannot be used at management points or on infrastructure/vehicles that are not under the purview of the certified participant's biosolids EMS (e.g., the truck of an exceptional quality compost product retailer not covered by a participant's EMS.)

The program designation will clearly state that it is an indicator of EMS verification and NBP EMS Program certification and completely avoid any implication that it is an indicator of product quality testing. The NBP allows certified program participants to use two types of program designation statements, a short statement and a long statement. The short statement can be displayed by certified program participants, in the approve places listed above, by itself or accompanying the visual indication of certification. The long statement describes what is behind the visual indicator or seal.

Short Statement:

"This organization (*or insert name*) operates an independently verified National Biosolids Partnership environmental management system."

Long Statement:

"This organization (*or insert name*) has been independently verified as having an effective biosolids environmental management system that supports continually improving environmental performance, meeting regulatory compliance obligations, utilizing good management practices, and creating meaningful opportunities for public participation and is in conformance with the requirements of the National Biosolids Partnership."

5.5 Appeals Process and Board

5.5.1 Appeals of Major Nonconformance

The NBP EMS Program provides an independent appeals process for those organizations that would like to question auditor findings of major nonconformance. The appeals process involves a volunteer Appeals Board representing a balance of biosolids management interested parties and wastewater industry professionals. The Appeals Board only addresses issues of major nonconformance. (See next section for appeals of minor nonconformance.)

Organizations that appeal the findings of a third party interim or re-verification audit and have previously obtained EMS verification shall retain their NBP EMS Program certification status until the appeal has been resolved

Interested Party Notification

Biosolids organizations must notify interested parties that a process exists to appeal third party EMS verification and third party interim audit results. With the notification, organizations must include information on how to use the process, such as by when appeals must be submitted, based on what grounds, and to who appeals are submitted. Biosolids organizations may choose to inform interested parties via a number of methods and times including: during regular public participation activities, as part of the (pre-audit) notification to interested parties about the third party EMS audit; as part of the publicly available (post-audit) audit report; and as part of the annual EMS performance report.

Appeals Board Process

The Appeals Board evaluates and makes final determinations on appeals actions. This function supports the ability of audited biosolids organizations and other interested parties to question and derive a Board determination on the decisions made by the independent third party audit organization. Final appeals determinations must be made by a majority of the Board.

To warrant an appeals action before the Board, the party bringing an appeal must set forth the specific EMS element(s) that they contend have not been evaluated and/or implemented consistent with NBP expectations and 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.

Appeals must relate to the findings of a specific audit. As interim audits only cover specific elements (not all 17 elements), appeals of interim audit findings are limited to the specific elements that were audited in the current audit.

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 notice of intent to appeal must be submitted within 30 days, and a formal appeal must be submitted within 60 days, of the public release of the third party audit report containing 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

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.

When presented with a request for an appeals action, the Board may:

- request further information from the biosolids organization, interested parties, and/or the auditor(s);
- request appearances by the relevant parties, in person or by phone;
- conduct further investigations; and/or
- deny the appeal without any of the above actions if the application for appeal (a) concerns claims other than the third party audit findings about a participating biosolids organization's EMS or (b) on its face, lacks sufficient objective evidence to support the claim.

A Board "determination" will take the form of a conclusive statement that the identified EMS deficiency does or does not represent a major nonconformance as defined in the *Auditor Guidance* and in the context of the NBP expectations and requirements as contained in the *EMS Elements*. The Board will direct its determination to the audit company for follow-up action.

In the case of an appeal of a finding of major nonconformance that led to verification denial, a Board determination that the EMS deficiency does not represent a major nonconformance will result in the biosolids organization receiving EMS verification. As would have been the case in the absence of such an appeal, a finding that the EMS deficiency does represent a major nonconformance will require the biosolids organization to correct the deficiency prior to receiving EMS verification. In the case of an appeal questioning the lack of a finding of major nonconformance that resulted in the issuance and/or maintenance of EMS verification, a Board determination that a major nonconformance does exist will require the audit company and the biosolids organization to address the EMS deficiency in conformance with the procedures and time frames contained in the *Auditor Guidance*. As would have been the case in the absence of an appeal, a Board determination that the EMS deficiency does not represent a major nonconformance will result in the biosolids organization's maintenance of its EMS verification.

With the exception of appeals actions, the independent, third party audit organization will make final verification determinations. The Board does not verify EMS or certify a biosolids organization to the program, but rather concludes whether or not an EMS deficiency under consideration constitutes a major nonconformance thereby either postponing EMS verification until corrected or requiring improvement consistent with *Auditor Guidance* procedures and time frames to maintain an existing EMS verification.

Composition of the Board

The Appeals Board provides access to the perspectives of, and enhances the credibility for the NBP Program with, a diverse range of interested parties. The Board represents a balance of biosolids management interested parties and wastewater industry professionals. The Board is composed of the following representatives.

- Four (4) representatives from within the biosolids industry
 - At least one of the industry representatives on the Board should have experience with implementing and/or operating an EMS
- Five (5) individuals from interested parties, such as the following (not necessarily one from each type)
 - Environmental and Community Organizations
 - Public Health Organizations
 - State and Federal Regulatory Agencies
 - Academia
 - Food, Agriculture, and Timber Industries

- Others

Appointment of the Board

- Initial Nominations and Appointments - Based on nominations solicited from a variety of sources, the NBP Management Committee (now Steering Committee) has made the appointments to establish the initial Board.
- Terms - Representatives serve for three (3) years. To prevent complete Board turnover, the initial nominations consist of two- and three-year terms (50% each).
- Nominations - The EMS Appeals Board presents nominations for new Board members to the NBP Steering Committee.
- Appointments - After careful review of the recommendations from the existing EMS Appeals Board, the NBP Steering Committee appoints all new members of the Board. The Steering Committee retains control over Board membership and could, if it believed necessary, ask for Board member resignations.

Board Meetings

The Board meets on an as-needed basis to handle appeals actions. To ensure Board cohesion, at least one (1) Board meeting per year will be a face-to-face meeting. The other meetings are likely to be conference calls. However, the Board determines, on a case-by-case basis, if any of the other meetings necessitate face-to-face interaction.

Board Staffing

The Board utilizes NBP staff to provide the required level of administrative and technical support, including the following functions.

- Travel and logistics coordination for Board meetings
- Administrative and communications for Board operations
- Background review for appeals actions

5.5.2 Appeals of Minor Nonconformances

Third party audit companies providing audit services for the NBP EMS Program have internal processes for resolving appeals. Agencies that wish to appeal a finding of minor nonconformance may utilize the third party audit company's internal appeals process. The audit companies will charge the agency for their time in conducting the internal appeals process. Unlike the above NBP Appeals Board process, this is not free of charge to the agency.

To place a minor nonconformance appeal, the agency should provide the audit company with documentation or other objective evidence explaining why the finding at issues does not exist. Appeals are reviewed and resolved by a registrar representative who was not part of the third party audit team. The registrar communicates the findings of its review back to the agency and NBP in writing.

CHAPTER 6: EMS Verification Audit Guidance - Policy

Chapter 6 describes the requirements for elements related to EMS documentation and the biosolids management policy.

Element 1. Documentation of EMS for Biosolids

Element 1 describes the NBP requirements for preparing and maintaining an EMS Manual. The EMS Manual is a framework for documenting and organizing the pieces of an EMS for Biosolids. The biosolids EMS Manual *need not be a compilation of all the EMS documents*. The EMS Manual is a “road map” linking the biosolids policy with EMS procedures, plans, and other key documents defining the EMS. The EMS Manual defines how all 17 Elements of the EMS link together. If it is easier to maintain the EMS Manual as a stand-alone set of policies and procedures, this is also an acceptable approach. The EMS Manual can be kept simple by cross-referencing more dynamic EMS documents, such as those describing monitoring requirements and operating procedures. While it won’t change as often as other documents, such as SOPs or records, the EMS Manual should be flexible enough to accommodate changes to the EMS program, and should be easy to update as needed.

Minimum Conformance Requirements

- 1.1 Document the EMS for Biosolids in an EMS Manual or equivalent set of program documents that describe, at least at a general level, the applicable policies, programs, plans, procedures, and management practices in the EMS.
- 1.2 Approve the EMS Manual by a level of the organization's management with the authority to commit people and resources to biosolids management activities.
- 1.3 Contain, in the EMS Manual, the organization's Biosolids Management Policy and EMS Procedures required by the *EMS Elements*.
- 1.4 Contain or cross-reference, in the EMS Manual, public participation, communications, and emergency preparedness and response programs and plans required by the *EMS Elements*.
- 1.5 Cover, in the EMS Manual, all applicable, relevant, and selected critical control points for biosolids management activities throughout the biosolids value chain.
- 1.6 In the EMS Manual, include or cross-reference all operational controls, procedures, processes, and other management methods used to achieve and maintain compliance with legal and other requirements.
- 1.7 In the EMS Manual, describe those biosolids management activities assigned to and performed by contractors.

Key Areas of Interpretation

Auditors shall interpret the requirements to “document the EMS for Biosolids in an EMS Manual or equivalent set of program documents” and to “contain, in the EMS Manual, the organization's Biosolids

Management Policy and EMS Procedures required by the EMS Elements” to mean that organizations must have written documentation of their Biosolids Management Policy and EMS Procedures. However, the organizations have flexibility in how they organize and arrange these documents. For example, organizations are not required to have one chapter in the EMS Manual for each element. Organizations may choose to combine related elements, such as Elements 3 and 10, or Elements 6 and 9 together.

Element 2. Biosolids Management Policy

Element 2 addresses the importance for an organization to articulate and communicate clearly its vision for how the organization will conduct its biosolids management activities. An organization’s biosolids management policy establishes the guiding principles for the organization’s environmental management system and operations. The organization’s EMS goals and objectives, biosolids management program, procedures and work practices, monitoring and measurement, internal auditing, and performance reporting should all align to support the organization’s efforts to meet the commitments and apply the principles established in its biosolids management policy.

Organizations seeking NBP EMS verification must commit to following the 10 principles of conduct set forth in the *Code of Good Practice*. In the Biosolids Management Policy, an organization must include an explicit statement of commitment to the 10 principles of the *Code of Good Practice* and may include other biosolids commitments that the organization voluntarily chooses to adopt.

Minimum Conformance Requirements

- 2.1 Establish a Biosolids Management Policy that commits the organization to following the principles of conduct set forth in the *Code of Good Practice* and may include other biosolids commitments the organization voluntarily chooses to adopt.
- 2.2 Communicate the policy to employees, contractors, and all interested parties.
- 2.3 Incorporate the policy into the organization's biosolids programs, procedures, and practices.

Key Areas of Interpretation

The definition of a Biosolids Management Policy is a “statement by an organization committing it to the principles set forth in the NBP *Code of Good Practice* with respect to biosolids management and any other overall environmental goals voluntarily adopted by the organization.” Auditors should interpret the requirement of Element 2 to “commit” to the *Code of Good Practice* to mean that the biosolids management policy statement must explicitly or by reference incorporate the 10 principles of the *Code of Good Practice*.

In verifying that the policy has been communicated to employees, contractors, and all interested parties, auditors should note that the policy need not be memorized by employees and contractors word-for-word; it is important that the main message gets across.

Public organizations have specific processes for approving policies, which can affect their ability (and timing) for making changes to policy statements. Some biosolids organizations seeking verification may be committed to policies that are broader than the biosolids management policy statements required by the NBP. In the case where the biosolids management policy is embedded in a broader set of

organizational policies, the organization must clearly define which statements constitute the biosolids management policy commitments. These statements are subject to audit for consistency with what is actually happening.

Because the biosolids management policy statement establishes a commitment by the organization to the principles of conduct set forth in the *Code of Good Practice* – the core commitments for participating in the NBP EMS Program - auditors must be able to clearly identify objective evidence that the policy statement belongs to the organization being audited and has been adopted by a level of the organization able to make such a commitment. Organizations can demonstrate objective evidence that the policy statement commits the organization to the policy through a variety of methods including: a signature on the policy of the appropriate level, such as the chairman of the board, commission or council with the Board, Commission or Council's name; printing the policy on organizational letterhead; and/or a reference to the name of the organization in the text of the policy.

CHAPTER 7: EMS Verification Audit Guidance - Planning

Chapter 7 includes the auditor guidance associated with the EMS planning elements. Element 3 addresses requirements related to the identification of critical control points in the biosolids value chain. Element 4 focuses on the legal and other requirements that govern various activities along the biosolids value chain. Element 5 outlines requirements for establishing goals and objectives to ensure that an organization's biosolids management activities continually improve. Element 6 discusses requirements associated with public participation in an organization's Biosolids Management Program and EMS planning process. Requirements under each of these elements help to ensure that an organization is proactive and thorough in its biosolids management activities. Proper planning enables an organization to anticipate and manage potential and actual environmental, health, and safety impacts that may be associated with biosolids management activities.

Element 3. Critical Control Points

The identification of critical control points along an organization's biosolids value chain is fundamental to the effective operations of an EMS for Biosolids. By identifying critical control points, and associated environmental impacts, an organization can plan and implement proactive steps - operational controls - to assure that desired biosolids material characteristics are consistent with intended/actual final use and/or disposal and to manage or mitigate the environmental impacts associated with these locations or activities. Requirements under Element 3 ensure that an organization has processes in place to identify and document information related to its critical control points for biosolids management.

Minimum Conformance Requirements

- 3.1 Identify and document the critical control points of the organization's biosolids management activities throughout the biosolids value chain, consistent with those identified in the *National Manual of Good Practice* and other authoritative sources.
- 3.2 Identify potential or actual environmental impacts at each critical control point.
- 3.3 Keep up to date information on the organization's critical control points.
- 3.4 Maintain records that link each critical control point and its potential environmental impacts with the corresponding operational controls.
- 3.5 For organizations that have successfully completed a third party verification audit, provide notification to the NBP (and assigned third-party verification auditor) following any operational change that requires a change to the identified critical control points or environmental impacts associated with the critical control points.

Key Areas of Interpretation

Requirement 3.1 states that critical control points identified by biosolids organizations shall be "consistent with those identified in the *National Manual of Good Practice* and other authoritative sources". Auditors should interpret "consistent" to mean two things. First, this means that the critical control points identified by the organization should be *similar in scope and scale* to those identified in

Appendix F of the *National Manual of Good Practice*. For example, if an organization were to identify Wastewater Treatment as a critical control point, this classification would be too broad in scale and scope to allow for effective mapping and management of environmental impacts and operational controls. Wastewater Treatment refers to an entire link in the biosolids value chain or a broad category of critical control points. To be consistent with the *National Manual of Good Practice*, the organization would instead need to dig deeper within Wastewater Treatment to identify specific locations or activities - such as anaerobic digestion, air drying systems, or solids dewatering.

Second, this requires that the biosolids organization identify and document *all* applicable critical control points in the organization's biosolids management activities and value chain. Failure to identify a complete range of critical control points may result in a failure to institute appropriate operational controls that are important for meeting legal, quality, and public acceptance requirements of the organization's biosolids.

Auditors need to understand, however, that biosolids management activities and wastewater treatment operations vary from one facility to another and NBP program participants will need to tailor the list of critical control points throughout the biosolids value chain (pretreatment and collection through final use or disposal) to include those that are relevant to their specific operations. Thus, auditors should expect that the identified critical control points will vary from one facility to another and that not all critical control points identified in Appendix F of the *National Manual of Good Practice* will be applicable to each organization. For example, utilities throughout the country employ a variety of methods for stabilizing biosolids, such as aerobic digestion, anaerobic digestion, or chemical stabilization. Likely, only one of these critical control points applies to a single facility (although participating organizations may have more than one facility and possibly of different types). Similarly, the NBP has identified a number of Critical Control Points for land application. It is expected that a typical land application program would be managing these critical control points. However, some of the land application critical control points will likely not be applicable to all biosolids organizations. The local biosolids organizations are expected to be able to explain to the auditor as to why certain critical control points have not been included (e.g., they are not applicable to local operations).

To assess critical control point completeness, auditors should consider:

- the intended/actual final use or disposal of biosolids and associated legal requirements;
- the organization's desired biosolids material characteristics;
- the organization's span of control; and
- the nature of the processes utilized to produce biosolids material.

While the NBP expects that participating organizations will identify critical control points that are consistent with those defined in the *National Manual of Good Practice*, an organization may have good reason due to local circumstances for identifying critical control points that are either not addressed in the *National Manual of Good Practice* or not wholly consistent with the Manual's specification of critical control points. The NBP expects the organization to provide the auditor with the rationale for diverging from the critical control points identified in the Manual. For example, a biosolids organization then sends its biosolids to a contracted land fill for final disposal could explain that the land fill operations are not under the organization's direct control or influence. However, the organization could also choose to identify the land fill operation as a critical control point and define the operational controls as the local utility agreements with the landfill operator, (bi-)annual calls to the regulators to check land fill operations are in compliance, and direct observation of landfill operations. Based on the rationale and

using the auditor's best judgment, the auditor will then need to determine whether the critical control points identified by the organization are adequate to ensure that the biosolids management activities meet legal, quality, and public acceptance requirements and do not have undesirable environmental impacts.

Auditors should ask if the manual was consulted during the identification of critical control points and operational controls. However, auditors should recognize that each facility and biosolids management program is unique. Consequently operating procedures will be unique as will the selection of critical control points and operational controls. Auditors should recognize and allow for the possibility that a critical control point for one organization may be listed as an operational control (or monitoring/measurement) by another organization.

The NBP believes that in selecting critical control points to ensure that the biosolids management activities meet public acceptance requirements, organizations should be attentive to interested party input. This attentiveness to interested party input may, at times, drive an organization to select critical control points beyond those that they associate strictly with the biosolids value chain. For example, an organization that generates untreated solids at one site and trucks them to another facility for processing into biosolids may select, based on regulatory and quality requirements, critical control points associated with trucking and solids testing. However, based on public acceptance requirements and input from interested parties, they organization may also select critical control points associated with odor control.

The NBP expects that biosolids organizations may identify critical control points (and associated operational controls) that are not specifically addressed in the *National Manual of Good Practice*, but are instead drawn from "other authoritative sources". For example, an organization may choose to experiment with new technology or equipment, not covered in the *National Manual of Good Practice*. Examples of other authoritative sources include publications and guidance manuals from the U.S. Environmental Protection Agency and Water Environment Federation.

Requirement 3.5 states that organizations that have successfully completed a third party verification audit must provide notification to the NBP (and assigned third-party verification auditor) following any operational change that requires a change to the identified critical control points or environmental impacts associated with the critical control points. An indication that such a notification is likely warranted include would include changes to an NPDES permit or changes to operations that require notification of a regulatory agency.

Element 4. Legal and Other Requirements

To ensure that it is operating in compliance with all applicable legal and other requirements, the NBP believes that an organization must have an effective process for identifying, tracking, and updating applicable regulatory and other requirements. Applicable requirements help define the boundaries that govern an organization's activities, while the organization's Biosolids EMS provides a systematic mechanism for ensuring that the behaviors and activities operate within these boundaries.

While Element 4 ensures that an organization has appropriate processes to understand its applicable requirements, other elements require the organization to implement controls to maintain and measure compliance with these requirements. Compliance with applicable legal and other requirements is a central component of the *Code of Good Practice* ("To commit to compliance with all applicable federal, state, and local requirements regarding production at the wastewater treatment facility, and management, transportation, storage, and use or disposal of biosolids away from the facility."), which all organizations

seeking NBP EMS verification must commit to in their EMS policy, and is consistent with the NBP belief that “outcomes matter”.

Minimum Conformance Requirements

- 4.1 Establish a procedure for identifying and tracking legal (federal, state, and local) and other requirements applicable to its biosolids management activities.
- 4.2 Establish and maintain records of applicable legal and other requirements.
- 4.3 Include a management process for incorporating changes and new requirements into the elements of the EMS.

Key Areas of Interpretation

The implementation aspect of “establish” should be interpreted to mean that the procedure for identifying and tracking requirements should be in place and operating effectively as intended (e.g., all applicable requirements are identified and documented). This means that the auditor will need to investigate whether the activities described in the procedure are actually occurring. To assess implementation of the procedure, the auditor will need to be familiar with the important legal and other requirements that are likely to affect biosolids operations.

Legal requirements refer to “federal, state, and local environmental laws and regulations that are applicable to an organization’s biosolids management program activities”. Auditors should be very familiar with the major legal requirements that affect various activities in the biosolids value chain. Auditors should note, however, that wastewater treatment operations are subject to a wide array of regulatory requirements, many of which do not apply to biosolids material production. Although biosolids organizations may choose to incorporate or reference such requirements in their EMS for biosolids, the NBP does not require or expect this to take place. Typically, legal and other requirements applicable to biosolids management in the wastewater/solids treatment process will involve ensuring the material reflects characteristics consistent with the intended final use or disposal (e.g., digester time/temperature requirements for pathogen levels). Auditors should refer to the *Manual of Good Practice* for summary information on regulatory requirements specifically associated with biosolids management. For example, Chapter 3 summarizes the requirements for land application associated with the 40 CFR Part 503 Rule.

Other requirements may include local ordinances governing transportation of biosolids, voluntary policies, informal or formal agreements with neighbors, other goals mandated by relevant political entities, industry guidelines or best practices, performance standards, municipal by-laws, or other commitments related to biosolids management made by the organization. Auditors should note that the procedures and the roles/responsibilities for committing to voluntary agreements are often not the same as those involved with legal requirements. For example, persons responsible for tracking and incorporating changes to federal requirements for an NPDES permit may not be the same persons who establish voluntary commitments with other local jurisdictions regarding biosolids transportation routes. Auditors should expect to find procedures established for identifying legal and other requirements and for incorporating these requirements into the EMS and that these procedures are being followed.

Element 5. Goals and Objectives for Continual Improvement

The periodic establishment and review of EMS goals and objectives drives and guides an organization's continual improvement efforts by defining the specific aspects of the organization's EMS or biosolids management performance that the organization and its various interested parties desire to target. Goals and objectives enable the organization to align resources and efforts to maximize the beneficial results. The NBP *EMS Guidance Manual* provides extensive detail to guide biosolids organizations in the establishment and tracking of goals and objectives for biosolids management.

Minimum Conformance Requirements

- 5.1 Establish and periodically review measurable biosolids program goals and objectives for biosolids management activities.
- 5.2 Reflect, in program goals and objectives, identified priorities for improving environmental performance of biosolids management activities based on critical control points, identified or potential environmental impacts, legal and other requirements, and applicable best management practices as defined in the *National Manual of Good Practice* and various authoritative sources on biosolids management (e.g., Water Environment Federation Manuals of Practice).
- 5.3 Consider, in developing program goals and objectives, input from interested parties developed through proactive public participation.
- 5.4 Integrate goals and objectives with other elements of the EMS and biosolids management activities.
- 5.5 Develop program goals and objectives using SMART criteria (i.e., be Specific, Measurable, Achievable, Relevant, and Time-bounded).
- 5.6 Update program goals and objectives on a regular basis.
- 5.7 Establish an action plan that describes those improvement activities it is pursuing to achieve biosolids program goals and objectives. Designate, in the action plan, schedules, milestones, resources, and responsibilities for achieving biosolids program goals and objectives.

Key Areas of Interpretation

Biosolids Program Goals are defined as “environmental performance improvement goals that are consistent with an organization's biosolids management policy to assure biosolids activities comply with applicable laws and regulations, meet quality and public acceptance requirements, and prevent other unregulated adverse environmental and public health impacts by effectively managing all critical control points. Biosolids program goals may include but are not limited to compliance with specific regulatory requirements, expanding beneficial use, improving biosolids quality, improving public acceptance and reducing or eliminating direct/indirect negative environmental impacts.” The easiest way for a biosolids organization to “reflect” priorities for improving environmental performance (requirement 5.2) is to establish specific, measurable goals and objectives for environmental impacts, legal and other requirements, and best management practices. Alternatively, an organization may develop other goals and objectives that support these areas and can “assure biosolids activities comply with applicable laws

and regulations, meet quality and public acceptance requirements, and prevent other unregulated adverse environmental and public health impacts by effectively managing all critical control points”. Demonstrated progress towards established goals and objectives in the areas of environmental performance and regulatory compliance would also demonstrate meeting the NBP expectations for those outcomes areas.

Further clarification on NBP expectations for what it means for an organization to “consider input from interested parties” (requirement 5.3) is provided under Element 6 Public Participation in Planning.

Element 6. Public Participation in Planning

Element 6 addresses the public participation requirements of the NBP EMS Program, including specific areas that must be included in the public participation approach, such as the commitment to the ten principles in the *Code of Good Practice*, as well as specific requirements for when public participation ought to happen, such as during development of EMS goals and objectives. The requirements in Element 6 are highly related to Element 9, which covers requirements for a proactive communications and public outreach program. Auditors and organizations being audited may want to consider some parts of Elements 6 and 9 together. Auditors must also note that the NBP has established certain specific expectations for how public participation outcomes (i.e., relations with interested parties) should act as an indicator of EMS health. A discussion of these expectations is provided in Chapter 4, Section 4.5.6.

Minimum Conformance Requirements

- 6.1 Select and implement a proactive public participation approach to involve interested parties in its Biosolids Management Program and EMS planning process.
- 6.2 Reflect, in the selected approach, the organization's commitments to the ten principles in the *Code of Good Practice*, including a plan for independent third-party verification of conformance with the *EMS Elements*.
- 6.3 Select an approach that is consistent with the degree of current public interest, history of public involvement, method of biosolids management, and related local circumstances.
- 6.4 Provide interested parties with meaningful opportunities to express views and perspectives relative to biosolids management activities, including concerns about environmental impacts, biosolids program performance, and potential areas for improvement.
- 6.5 Consider input from interested parties in initially developing program goals and objectives during EMS implementation and in updating them as part of periodic review of biosolids management program performance.

Key Areas of Interpretation

Auditors should interpret a “proactive public participation approach” as one that creates avenues for interested parties, as identified by the organization, to communicate their perceptions and concerns regarding biosolids management activities near the beginning of the organization’s EMS planning process (specifically in identifying environmental impacts and setting performance goals and objectives for the biosolids program) and during the periodic review of EMS program goals and objectives. A “proactive”

participation approach also enables the organization to understand the needs, concerns, and perspectives of interested parties before problems arise or incidents occur.

The NBP does not require or expect that organizations will necessarily develop public participation efforts solely dedicated to EMS planning and implementation. The NBP believes it is fully acceptable that organizations utilize existing methods (e.g., existing community advisory groups) and/or leverage already planned events (e.g., a meeting relating to planned treatment plant upgrades) to discuss their EMS planning efforts and collect information on interested party perspectives. Similarly, the NBP believes that already existing public participation initiatives can provide organizations with the awareness of interested party perspectives sufficient to develop a responsive and effective EMS. The NBP does not require public meetings or hearings. Thus, organizations have multiple options for how they demonstrate public participation efforts have provided them with the understanding to prepare their EMS. The auditor should expect that the biosolids organization has documented its approach for involving interested parties in its Biosolids Management Program and EMS planning process. The NBP expects that records of public participation activities (such as attendee lists) should exist, at a minimum, since the EMS was put in place. At the time of the first verification audit, this would be at least six months. The NBP understands that not all organizations have had a formal public participation program and records of its implementation prior to implementation of the EMS.

In addition to verifying that the organization has selected and documented a public involvement approach, the auditor will need to make a determination as to whether this approach is adequate to ensure that the organization reasonably understands the perceptions and concerns of interested parties before problem situations arise. As well, auditors shall verify that the selected public participation approach reflects the organization's plan for independent third-party verification of conformance with the *EMS Elements* (requirement 6.2). Auditors shall verify that biosolids organizations have notified interested parties about their intent to receive an independent third party audit and have built into their EMS planning a discussion with interested parties about approaches for observing the third party audit.

The NBP expects appropriate state and federal regulators to be identified among an agency's interested parties and regulators should be invited to participate in the EMS planning and audit process. The NBP understands that this invitation may not be accepted, but recognizes that regulatory participation as interested parties is desired to the extent possible.

The NBP believes that providing notice of their intent to receive a third party audit and having a discussion with interested parties about approaches for observation would provide the organization the best opportunity to manage expectations about audit results, articulate any constraints needed on audit observation, and understand how best to conduct the audit to gain maximum public acceptance of biosolids management activities. Auditors should note, however, that the NBP does not require a biosolids organization to have interested parties observe or otherwise participate directly in the independent, third party audit.

Biosolids organizations are granted significant flexibility in how they involve interested parties in their EMS planning activities. The auditor shall be familiar with NBP guidance on public participation in planning that is contained in the *Biosolids EMS Guidance Manual* and the *National Manual of Good Practice* (Chapter 1 Public Acceptance). These publications provide specific methods, techniques, questions, and examples that can assist biosolids organizations in developing appropriate and effective public participation approaches. As implied by requirement 6.3, the auditor shall keep in mind that what constitutes an appropriate approach may vary significantly across locations, and requirement 6.3 states that the organization's approach shall be "consistent with the degree of current public interest, history of public involvement, method of biosolids management, and related local circumstances".

The auditor shall note that the organization's public participation requirements extend over the full biosolids value chain, including those biosolids management activities implemented by contractors. This means that the organization's documented public participation approach shall include information that addresses how input from interested parties is solicited and considered for activities that may be performed by contractors. In some cases, the biosolids organization may opt to have an integrated public participation process that covers public participation activities performed by contractors. If any of the organization's contractors maintain their own public participation plan(s), it is acceptable for the biosolids organization to reference the contractors' plans.

To ensure the organization's public participation approach is "consistent with the degree of current public interest, history of public involvement, method of biosolids management, and related local circumstances," the auditor shall look to see whether the organization has:

- considered the history of local support for or opposition to biosolids management practices;
- examined previous public participation methods and their effectiveness;
- considered any current interests, issues, or concerns;
- considered who is impacted or potentially impacted by the organization's biosolids management practices;
- identified who is concerned or whose opinions might be important for successful operations of the organization's biosolids management practices; and
- selected and implemented an approach consistent with the above.

Auditors shall consider that, at a minimum, the following aspects of a public participation approach may change based on local conditions.

- Format. For example, where there is substantial public interest, the organization may need to provide a large venue forum where many members of the public can participate. On the other hand, organizations that find there is interest among only some specific parties may want to provide more focused opportunities for public participation, such as advisory or focus groups. Multiple formats and opportunities are likely to be appropriate for many organizations. The *Biosolids EMS Guidance Manual* provides examples of various public participation mechanisms.
- Frequency. Where there is significant public interest, the organization would likely have public involvement activities more frequently than where there is not. Where there is low public concern or interest, the organization may want to have open ended opportunities available on a regular basis (e.g., site tours and public complain/inquiry hotlines), and less frequent, formal public participation events.
- Public Involvement. In instances where there is broad-based public interest or concern, the organization could provide opportunities to involve the public at large. Where there is concern or interest among specific parties and less among the broader public, the organization could sponsor public participation activities that involve those specific parties (e.g., farmers whose fields have biosolids applied, or communities potentially impacted by truck traffic). The NBP does not require agencies to hold public meetings or hearings

If a less active public participation approach has been selected (e.g., one where the organization is proactively prepared, but engages only as needed), the organization must provide evidence that other approaches were considered and that all interested parties and potential concerns/perspectives have been identified. Selection of a less active public participation approach will not necessitate a finding of a nonconformance, however, the organization shall be prepared to document for the auditor why a less active approach was selected.

The auditor shall interpret “meaningful opportunities” to mean that the organization has established mechanisms (more than one) that allow for interested parties to communicate their perspectives, views, and concerns regarding biosolids management activities to the organization. To be considered a “meaningful opportunity”, the method must meet the following criteria:

- identified interested parties have been provided a method for input consistent with their location and capacity to comment (e.g., if interested parties are located in a rural area with limited or no internet access, opportunities to express views and perspectives should not be limited to email or web site access);
- efforts have been made to alert potential interested parties about the opportunity to provide comment;
- time has been provided to enable interested parties to participate, formulate, and deliver substantive input; and
- background information (e.g., information on the organization’s general EMS implementation plans, commitment to the *Code of Good Practice* and third party verification process) has been provided to interested parties to enable them to understand the EMS planning process and formulate substantive input.

“Input from interested parties” shall be interpreted to include both written comments (e.g., letters, completed surveys) from the public and interested parties as well as verbal comments made during meetings and other methods organized by or on behalf of the biosolids organization such as one on one private meetings with interested parties. As stated earlier, the organization can obtain this input either through public participation efforts dedicated to EMS planning and implementation or through other existing or newly developed efforts that can include as a component discussion of the biosolids EMS.

The auditor shall interpret “consider” to mean that the organization has acknowledged and responded to all interested party input. Consistent with the NBP assertion that “outcomes matter”, there are three acceptable responses to public comments. First, the organization may decide to directly address public input by implementing measures designed to resolve issues related to an area of public comment. For example, the organization might modify practices or alter equipment or processes. Second, the organization may decide to establish goals and objectives that focus organizational attention on addressing identified issues over a defined time horizon. Third, the organization may decide not to directly address a certain issue raised by public input due to technical, financial, or other constraints. In such cases, the organization is expected to document, and communicate to interested parties, its rationale for making this determination, and, where possible, to suggest alternate steps to address (or partially address) the interested party input. Although the NBP does consider this third option for response to interested party comments acceptable, a pattern of not addressing concerns or issues raised by interested parties should be viewed by an auditor as a potential failure to achieve NBP public acceptance objectives and the organization’s commitment to continual improvement. As such, auditors should consider that such patterns may be an indicator of EMS health problems. In this context, however, the NBP requires auditors to remain attentive to the possibility that prior efforts that have addressed interested party input

may leave a biosolids organization with a pattern of on-going, residual concerns. In such cases, auditors should factor the organization's prior attentiveness to interested party input into their system health evaluation. Auditors should expect, however, that biosolids organizations will continue to have ongoing, two-way communications with interested parties about such residual concerns. Meeting the requirements of Element 6 demonstrates to the third party auditor that the organization is meeting the NBP expectations for the outcome area of Relations with Interested Parties.

The NBP expects that the organization can demonstrate that it actually acknowledges and responds to the interested party input. At a minimum, "consider input" means that:

- views and perspectives have been captured by a process that ensures management is fully aware of interests, needs, and concerns of interested parties as critical control points are identified and objectives and goals are set; and
- responses to public comments have been formulated, documented, and communicated back to relevant interested parties by the biosolids organization.

Auditors shall recognize that the biosolids organization retains full control over management and decision making, and it is not obligated to implement measures to resolve all public concerns. Auditors shall factor into their assessment that there can always be some parties who are not satisfied that their concerns have been addressed or parties who are fundamentally opposed to certain biosolids management practices, regardless of the organization's environmental performance or how active and meaningful the public participation effort has been.

When contractors are responsible for implementing some or all of the public participation approach, the NBP expects that the organization has included in its EMS a process for obtaining the information gathered by contractors. This process is fundamental to the organization being able to "consider" input from interested parties.

CHAPTER 8: EMS Verification Audit Guidance - Implementation

After the planning process is complete, the next step is implementing the systems improvement systems. This chapter describes roles/responsibilities (Element 7), training needed to provide necessary skills and knowledge of EMS standards (Element 8), communication tools (Element 9), standard procedures (Element 10), and practices for normal and abnormal situations (Element 11&12).

Element 7. Roles and Responsibilities

Element 7 describes requirements with respect to employee roles and responsibilities for performing biosolids management activities and EMS functions. Element 7 does not dictate what those roles and responsibilities are, but rather that they be defined and documented, and that management provide the resources necessary to implement them.

Minimum Conformance Requirements

- 7.1 Establish and maintain records of the assigned roles and responsibilities for the biosolids management program and activities. These records shall define and document roles and responsibilities of employees for performing biosolids management activities and EMS functions.
- 7.2 Appoint an individual with overall responsibility for ensuring that biosolids management program and EMS are implemented and maintained.
- 7.3 Provide the human, technical, and financial resources necessary to effectively execute these responsibilities.
- 7.4 Define and document the roles and responsibilities of contractors retained to perform various biosolids management activities and EMS functions through Service Agreements.

Key Areas of Interpretation

In requirement 7.3 “human resources necessary” means that training and qualifications are commensurate and consistent with the assigned roles and responsibilities of employees, as reflected in their job descriptions.

“Technical resources necessary” means that the necessary equipment and tools are provided.

“Financial resources necessary” means that funds are allocated, consistent with the outcome of an evaluative process to ascertain the resources necessary to support effective EMS implementation. The auditor will not verify whether or not allocated funds are deemed sufficient, but will verify that the organization used an evaluative process to determine the resources necessary and then provided a level of financial resources consistent with that evaluation.

“Effectively execute” means that biosolids management activities are producing biosolids materials that are in compliance with all legal and other requirements and meet other identified, desirable characteristics (e.g., a organization might identify “no visible plastics” as a desirable characteristic based on customer requirements or selected final use). It also means that the EMS has been implemented and updated as necessary.

For requirement 7.4, the NBP considers relevant contractors to be those that have roles and responsibilities for biosolids management activities associated with the critical control points of the biosolids organization’s biosolids value chain. The NBP acknowledges that agencies may have contractors performing functions outside the biosolids value chain and are therefore not included in the requirements of the NBP EMS or third party verification. The NBP expects all contractors with roles and responsibilities for biosolids management activities to have contracts and/or Service Agreements that recognize the conditions imposed by the agency EMS, regardless of the extent of responsibilities or involvement of the contractor with the agency’s EMS.

Element 8. Training

Element 8 describes training requirements to ensure that biosolids management activities are being performed by competent and qualified employees and contractors.

Minimum Conformance Requirements

- 8.1 Establish and maintain a training program to ensure that employees responsible for specific biosolids management activities and for the implementation of various EMS functions are competent in performing their assigned tasks and duties. The training program shall provide general awareness of the EMS and how each employee's assigned roles and responsibilities relate to the entire biosolids value chain.
- 8.2 Include in the training program new or reassigned employees.
- 8.3 Maintain records of individual employee training delivered and completed.
- 8.4 Require that contractors establish their own training programs consistent with their roles and responsibilities in biosolids management activities as defined through Service Agreements.

Key Areas of Interpretation

To satisfy requirement 8.4, the biosolids organization may require that contractors develop their own training program, or that they participate in the organization’s own training programs. In either case, the biosolids organization being audited is responsible for ensuring contractors receive training that is consistent with their roles and responsibilities in biosolids management activities.

Element 9. Communications

The NBP believes that publicly accepted biosolids management hinges upon the presence of effective information flows between the biosolids organization and interested parties. Access to information about biosolids management activities can significantly reduce public perceptions of risk. At the same time, employees and contractors need certain information to perform their jobs in a safe and environmentally sound manner. Element 9 defines the EMS program requirements for internal communications to employees and contractors, as well as external communications to interested parties.

Minimum Conformance Requirements

- 9.1 Establish and maintain a proactive Communications Program that provides ongoing information about the Biosolids Management Program and EMS to interested parties and the public, consistent with local circumstances, the method of biosolids management, public communications history, and degree of current interest in its biosolids management activities.
- 9.2 Include a procedure for receiving inquiries and requests for information from interested parties about its biosolids management activities and EMS. The procedure shall define a process for assuring a timely and complete response to inquiries by interested parties.
- 9.3 At a minimum, make the following information about the organization's biosolids management program and activities available to interested parties:
 - a) the Biosolids Management Policy;
 - b) applicable legal and other requirements;
 - c) biosolids program goals and objectives for continual improvement;
 - d) the periodic Biosolids Management Program Performance Report; and
 - e) a detailed report of the independent, third party EMS verification audit results.
- 9.4 Define roles and responsibilities of outside contractors in the Communications Program.
- 9.5 Communicate relevant information about biosolids management activities and the Biosolids Management Policy, and all seventeen (17) elements of the EMS to employees and outside contractors, consistent with assigned roles and responsibilities.

Key Areas of Interpretation

A “proactive Communications Program” is one that creates avenues for the public and interested parties to receive and/or access information about the organization’s EMS, its biosolids management activities, and its biosolids management and EMS-related performance. The auditor should also expect that the Communications Program establishes quality, two-way flows of information, which allows interested parties to communicate their perceptions and concerns regarding biosolids management activities. Such a “proactive” Communications Program establishes a foundation for communication with interested parties before problems arise or incidents occur. In developing a “proactive Communications Program” that provides a “timely response” to inquiries or requests for information, the NBP expects that the organization would have identified and contacted the people or organizations who are likely to receive inquiries or complaints from interested parties. For example, in some cases, interested parties might direct inquiries or complaints about the organization’s biosolids management program to other organizations or government agencies (e.g., local departments of health, transportation, or police).

The NBP's expectations for ensuring that the communications program is "consistent with local circumstances, the method of biosolids management, public communications history, and degree of current interest in its biosolids management activities" are identical to those under Element 6, Public Participation in Planning.

The NBP expects that the definition of a "timely response" to inquiries will depend on whether the public inquiry or request is part of an emergency situation or an inquiry pertaining to routine biosolids management activities. For emergency situations, a "timely response" could mean immediately. For routine inquiries, the NBP suggests that a "timely response" be interpreted to mean that an organization acknowledges the receipt of the request or inquiry to the originator within two business days of its receipt by the organization. The organization has flexibility to determine the most appropriate means of acknowledgment (e.g., mail, email, phone, fax). In addition, the NBP suggests that a "timely response" be interpreted to mean that a response to the inquiry or the requested information is sent to the originator within 2 weeks of initial request or inquiry. If the organization is unable to meet the suggested time frames for response, then the NBP suggests that the organization inform the request originator of this within the two week period and provide a new time frame for conveying the information requested. To the extent that an auditor observes a consistent pattern of responses outside of what is generally considered to be timely, the auditor should view this as a potential failure to establish quality flows of information with interested parties, as described under outcomes matter, and further examine the organization's EMS for potential systemic problems.

The auditor should consider a response "complete" if all requested information is provided. If the organization is unable to provide all or part of the requested information, the auditor shall expect the organization to indicate so in its response to the request originator and provide an explanation of why the information cannot be made available. The auditor should note that the organization is required to make biosolids management information addressed under requirement 9.3 available upon request.

For requirement 9.4, the auditor shall expect the biosolids organization to define roles and responsibilities of outside contractors in the Communications Program, to the extent that contractors have responsibilities that involve actual or potential engagement with the public / interested parties. The NBP acknowledges that not all contractors have such roles and responsibilities.

Element 10. Operational Control of Critical Control Points

Element 10 describes requirements associated with operational controls of critical control points. (See Element 3 for more information on critical control points.) Operational controls regulate biosolids management activities to ensure that critical control points are managed within acceptable parameters. By establishing standard operating procedures (SOPs), work practices, instrumentation and process controls, monitoring programs, and other operational controls, a biosolids organization can ensure that operations consistently, efficiently, and effectively meet applicable legal and other requirements. Most importantly, operational controls enable an organization to eliminate or minimize negative environmental impacts and maximize the benefits delivered to the community from the biosolids program.

Minimum Conformance Requirements

- 10.1 Develop and implement standard operating procedures, work management practices or other appropriate methods at all critical control points throughout the biosolids value chain to effectively manage potential environmental impacts.

- 10.2 Incorporate all legal and other adopted requirements in the operational controls of critical control points.
- 10.3 Consider applicable best management practices as defined in various authoritative sources on biosolids management (e.g., the *National Manual of Good Practice*, Water Environment Federation Manuals of Practice, etc.).
- 10.4 Include appropriate preventative maintenance procedures and work management systems for maintaining equipment, instrumentation, vehicles, and other treatment technology and process control systems associated with its biosolids management activities.
- 10.5 Require that contractors establish their own operational controls consistent with their roles and responsibilities in biosolids management activities.

Key Areas of Interpretation

Element 10 requires that the “organization shall develop and implement standard operating procedures, work management practices, or other appropriate methods” to manage potential environmental impacts at all critical control points throughout the biosolids value chain. The *EMS Elements* does not specifically require that SOPs and work management practices be written down. However, one way to demonstrate to an auditor that SOPs have been “developed and implemented” is to have them written down and clearly available to those who need them (e.g., at work stations). Demonstration Agencies could also write them down in a remote manual or not write them down at all. To ensure consistent implementation of operational control, the auditor should find that in the absence of written SOPs at work stations, employees are able to cite procedures the same way all the time.

Merely having written SOPs does not demonstrate that critical controls points are being effectively controlled. Auditors will also look for records, logs, and other objective evidence that demonstrate SOPs and other operational controls are actually being implemented. Also, while written SOPs are important, they are not the only form of operational control. Operational controls can also include permits, ordinances, process controls, monitoring activities, and checklists, among others.

The auditor should interpret “all” to mean that one or more operational controls have been developed for each identified critical control point.

For requirement 10.2, there are multiple ways that objective evidence can be provided to the auditor to demonstrate that legal and other requirements have been “incorporated” in the operational controls of critical control points. Auditors should not interpret requirement 10.2 as requiring that legal and other adopted requirements be specifically cited in written SOPs. While this is one method of providing objective evidence to the auditor that all legal and other adopted requirements have been incorporated in the operational controls of critical control points, it is not the only method. Other options are acceptable, such as providing tables in EMS Manuals that link critical control points, operational controls, and monitoring/measurement requirements. Organizations have the flexibility to determine how applicable legal and other requirements are incorporated into operational controls.

For requirement 10.3, the auditor shall interpret “consider” to mean more than that the organization has merely thought about the adoption of applicable management practices. The auditor shall expect that the organization has *actually adopted*, as applicable, management practices outlined in the *National Manual of Good Practice*, the Water Environment Federation Manuals of Practice, and/or other authoritative

sources. If the organization has not adopted applicable management practices, then the organization must be able to provide a rationale for why it has selected an alternative approach for managing the relevant critical control point. As discussed under requirement 3.1, the organization may have good reasons due to local conditions or circumstances that make a certain operational control inappropriate or impractical, or that make another approach more effective. Based on this rationale and using the auditor's best judgment, the auditor will then need to determine whether the operational controls selected by the organization are adequate to assure the biosolids management activities meet the legal, quality, and public acceptance requirements.

To satisfy requirement 10.5, a biosolids organization must require its contractors to establish operational controls or to adopt and implement the operational controls developed by the biosolids organization for those biosolids management activities consistent with the contractors' roles and responsibilities. In requirement 10.5, however, "require" should be interpreted to mean that the organization has done more than just contractually required a contractor to establish operational controls. The organization should also periodically check to verify that contractors have established appropriate operational controls if the contractors have developed their own operational controls, or to verify that contractors are effectively implementing the biosolids organization's operational controls. This interpretation is based on requirements in Element 16 which require the organization to periodically audit biosolids management activities performed by contractors. Ultimately, under the NBP's program, it is the organization, not the contractor, who is responsible for ensuring that operational controls with respect to contractor activities have been identified, documented, and implemented.

Meeting the requirements of Element 10 to "consider biosolids management practices consistent with the *National Manual of Good Practice*" also demonstrates that the organization is meeting the NBP expectations for the outcome area of Quality Biosolids Management Practices.

Element 11. Emergency Preparedness and Response

Element 11 defines the NBP's requirements for establishing Emergency Preparedness and Response Plans and Procedures.

Minimum Conformance Requirements

- 11.1 Establish and maintain Emergency Preparedness and Response Plans and Procedures to assure effective response to accidents and emergency situations associated with biosolids management activities.
- 11.2 Review and evaluate the effectiveness of emergency preparedness and response procedures, including communications systems, and revise them as necessary.
- 11.3 Have all emergency response equipment on site or readily available within a minimum response time.
- 11.4 Require contractors to establish and maintain Emergency Preparedness and Response Plans and Procedures to assure effective response to accidents and emergency situations associated with biosolids management activities.

Key Areas of Interpretation

Auditors should interpret “effective response” to mean that plans have been built around response to “worst case” scenarios with no ecological or human consequences. This would include, for example, having a contingency plan for biosolids final use and disposal (e.g., landfill options available in the case land application options are lost).

The NBP defines “minimum response time” to mean that equipment can be utilized in an emergency situation to avoid or minimize the effect on human health and the environment. As well, the NBP expects that organizations shall consider public acceptance considerations (such as biosolids spills on local roadways) in determining response times for emergency equipment. The NBP expects that organizations would have personal safety equipment (such as fire prevention or eyewash capability) located on the job site. Equipment that might be maintained off-site would include larger equipment, such as tractors required to clean up a biosolids spill on the roadway. The NBP expects that some organizations might have contracts in place for use of equipment in emergency situations.

For requirement 11.4, the biosolids organization may require contractors to establish and maintain their own Emergency Preparedness and Response Plans and Procedures, or the organization may require contractors to be a part of the organization’s own Emergency Preparedness and Response Plans and Procedures.

Element 12. EMS Documentation and Document Control

Documentation plays an important role in an organization’s EMS, helping to ensure that an organization’s activities are performed in an appropriate and consistent manner. EMS documentation can also strengthen institutional memory, enabling an organization to weather staff turnover. Element 12 addresses the NBP’s requirements and expectations regarding EMS documentation and document control.

Minimum Conformance Requirements

- 12.1 Establish and maintain documentation, documents, and records for the Biosolids Management program including the seventeen (17) elements of its EMS.
- 12.2 Establish and maintain document control procedures and practices to ensure that its Biosolids Management program documentation and documents are: a) available and can be easily located, b) created following established document creation protocols, c) kept up to date through periodic reviews and revision (if applicable), d) properly marked with version number, effective date(s), and references to replaced or superseded versions, and e) approved by authorized personnel.
- 12.3 Establish and maintain records of biosolids management activities and ensure that they are: a) available and can be easily located, and b) retained for the specified period of time.
- 12.4 Establish documentation, document control and record requirements for biosolids management activities conducted by its contractors in Service Agreements, and incorporate these requirements into its EMS for biosolids.

Key Areas of Interpretation

Auditors should interpret requirement 12.4, “establish documentation, document control and record requirements for biosolids management activities conducted by its contractors in Service Agreements, and incorporate these requirements into its EMS for biosolids” to mean that organizations must have written agreements as to how relevant documents and records generated by contractors are to be controlled consistent with the organization’s EMS procedures. The NBP does not expect that organizations will require contractors to establish their own document control systems.

CHAPTER 9: EMS Verification Audit Guidance - Measurement and Corrective Action

This chapter discusses the EMS requirements associated with measurement and corrective action. Elements in this chapter ensure that the results of an organization’s activities and performance are tracked, and that the information is used to inform and guide future activities, supporting the organization’s continual improvement efforts. Elements addressed in this chapter include Monitoring and Measurement (Element 13), Nonconformances: Preventive and Corrective Action (Element 14), Biosolids Management Program Performance Report (Element 15), and Internal EMS Audit (Element 16).

Element 13. Monitoring and Measurement

Monitoring and measurement activities provide important feedback to an organization about the status of its operations and activities. When provided with appropriate data at the right time and frequency, personnel can make better informed decisions that affect biosolids management operations. In some cases, organizations are required to perform monitoring and measurement activities to satisfy regulatory or other requirements. Monitoring and measurement help organizations to ensure that performance remains within acceptable bounds, and to assess where effort and resources should be targeted.

Minimum Conformance Requirements

- 13.1 Establish and maintain regular monitoring and measurement procedures and practices for all biosolids management activities to assure compliance with applicable legal and other requirements, measure biosolids program performance at critical control points, and track progress toward achieving program goals and objectives.
- 13.2 Record monitoring and measurement results and maintain records as established in the record keeping procedures under Element 12.
- 13.3 Require contractors to establish and maintain regular monitoring and measurement procedures and practices for all their assigned biosolids management activities, as defined in their service agreement.

Key Areas of Interpretation

For requirement 13.3, the biosolids organization has the flexibility to determine if it will require contractors to establish their own monitoring and measure procedures and practices or require the contractor to adopt and implement the organization's own monitoring and measurement procedures and practices.

Element 14. Nonconformances: Preventive and Corrective Action

The establishment of systematic processes for preventing and responding to management system nonconformances is crucial to the effectiveness of an organization's biosolids management program. Such systems drive continual improvement and prevent problem situations from occurring and recurring. Element 14 outlines the requirements necessary to ensure that organizations are successful at preventing and correcting nonconformance situations.

Minimum Conformance Requirements

- 14.1 Develop and implement a procedure to investigate any noncompliance with applicable regulatory requirements and/or nonconformance with internal EMS procedures identified during routine monitoring and measurement or periodic internal EMS audits.
- 14.2 Develop and implement a procedure to identify the cause and take actions to correct the nonconformance.
- 14.3 Develop and implement a procedure to document the necessary corrective actions taken to prevent a recurrence.
- 14.4 Develop corrective action plans to address nonconformances identified during routine monitoring and measurement and identify the nonconformance, the root cause(s), and the corrective action being taken. In the corrective action plans, identify changes to policies, programs, plans, operational controls and monitoring/measurement procedures to prevent future nonconformances.
- 14.5 Establish formal corrective action plans to address finding of internal EMS audits and audits conducted by third parties. Document corrective action plans and describe what actions will be taken to address the audit findings, the individuals responsible, the estimated completion date, and required resources to develop and implement corrective and preventive action. Include recommended changes to policies, programs, plans, operational controls and monitoring/measurement procedures to prevent future nonconformances. Document these changes in the corrective action plan and in the EMS Manual and other relevant EMS documentation.
- 14.6 Track progress in completing the corrective actions and periodically update to reflect completion.

Element 15. Periodic Biosolids Program and EMS Performance Report

The periodic Biosolids Program and EMS Performance Report is intended to provide interested parties with periodic information regarding the focus and status of the organization's EMS activities as well as its environmental and EMS performance

Minimum Conformance Requirements

- 15.1 Complete a periodic written Biosolids Management Program Performance Report (at least annually), summarizing the performance of the biosolids management program. The report shall contain appropriate summaries of monitoring, measurements and other results that demonstrate the performance of the biosolids program relative to its goals, objectives and legal requirements, including those biosolids management activities conducted by contractors. The report shall also provide summaries of performance relative to other voluntary adopted requirements, the organization's progress toward achieving its biosolids program goals and objectives, and a summary of its independent third party EMS verification audit results.
- 15.2 Make the periodic Biosolids Management Program Report available to the public. The organization shall have the flexibility of using other methods, including electronic methods such as a biosolids program web page, in addition to or in lieu of a written periodic performance report.

Key Areas of Interpretation

Auditors should interpret the requirement for “a periodic written Biosolids Management Program Performance report (at least annually)”, to mean that organizations should prepare and make publicly available such a report at least every 12 months. Organizations that have not yet received an initial, independent third party EMS verification audit are not required to complete the Biosolids Management Program Report and make it available to the public until after the third party audit has been completed so that a summary of the third party verification audit may be included, as required in element 15. Organizations may prepare and make publicly available a Biosolids Management Program Performance Report without the audit summary prior to the third party audit. However, this is not required. Failure to prepare the Biosolids Management Program Performance report and make it available to the public would not constitute a finding of nonconformance during the initial verification audit only. Failure to prepare the Biosolids Management Program Performance report and make it available to the public at least annually would constitute a finding of nonconformance for all other third party interim and re-verification audits.

Auditors should interpret the requirements for the annual performance report to “include a summary of the EMS verification audit results” to mean that the annual performance report should include a summary of the most recent third party audit results, whether that audit was an interim audit or a full verification audit.

Element 16. Internal EMS Audit

Self-audits of the organization's EMS provide important feedback that supports continual improvement. The internal EMS audits are intended to enable organizations to periodically identify and address weaknesses in their biosolids management systems.

Minimum Conformance Requirements

- 16.1 Establish and maintain an internal audit program to periodically analyze the EMS for biosolids and determine whether it is effectively meeting its biosolids management policy, program requirements and biosolids program goals and objectives. The internal EMS audit program shall define the scope, frequency, and methodology of the audits, assign responsibility for conducting the audits and communicating their findings, and designate individuals to whom these findings are to be conveyed. The internal audit shall also evaluate the organization's performance relative to established biosolids program goals, objectives and performance measures. The internal EMS audit program shall cover all the organization's biosolids management program activities including those performed by contractors.
- 16.2 Report internal EMS audit results to the organization's management in a way that they can take action to make necessary modifications to the EMS and biosolids management program. The person responsible for the biosolids management program shall develop, or delegate the development of, a comprehensive corrective action plan addressing each nonconformance identified by the internal audit.
- 16.3 Maintain, at a minimum, the following documents and records, as applicable, relating to its audit program: a) description of audit methodology, protocol, scope, and schedule; b) identification of lead auditor(s), qualifications, and description of roles and responsibilities of auditors, management representatives, and others that may participate in, review, or be expected to act upon the audit; and c) corrective and/or preventive action plans prepared resulting from an audit, and any related changes made to policies, plans, procedures, and work practices that occur as a result of an audit's findings, evaluation, or follow-up actions.

Key Areas of Interpretation

The biosolids organization has the flexibility to define for itself what "periodically" analyzing the EMS means. However, the timing for internal EMS audit activities should be coordinated with the management review and periodic Biosolids Management Program Report, such that the results of the internal EMS audit might inform the management review (especially information about performance relative to established biosolids program goals and objectives) and the creation of the periodic Biosolids Management Program Report.

The internal audit program should include an examination of the organization's commitment and implementation of the *Code of Good Practice*, as part of analyzing the EMS for biosolids and determining whether it is "effectively meeting its biosolids management policy". Per the requirements of Element 2, the biosolids management policy must "commit the organization to following the principles of conduct set forth in the *Code of Good Practice*". Therefore, in examining whether or not it is meeting the biosolids management policy, the organization should review its commitment and implementation of the *Code of Good Practice* as part of the internal audit program.

Biosolids organizations may choose to have the internal audits conducted by biosolids organization personnel or by an independent party (for example, paid audit consultants). If an audit consultant is utilized, the internal audit report must have the biosolids organization's name and not refer to a consultant's document or recommendation.

The NBP does not require that all 17 EMS Elements be covered by internal audits individually or collectively through the five-year verification cycle. Minimum requirements for internal auditing when the internal audit will substitute for a third party interim audit are described in Chapter 5, section 5.2.2.

CHAPTER 10: EMS Verification Audit Guidance - Management Review

This chapter addresses EMS requirements associated with periodic management reviews of progress and performance related to organization's biosolids management systems. The management review provides a mechanism for incorporating feedback related to the organization's EMS and outcomes performance into periodic EMS planning activities.

Element 17. Periodic Management Review of Performance

Element 17 describes the requirements for conducting and documenting periodic management reviews of the EMS and its performance relative to the organization's policy commitments, goals, objectives and established performance measures.

Minimum Conformance Requirements

- 17.1 At intervals the management determines appropriate, review the EMS and its performance relative to policy commitments, goals, objectives and established performance measures to ensure its continuing stability, adequacy and effectiveness. The management review shall address the possible need for changes to policy, the goals and objectives, the biosolids management program and other EMS elements based on internal EMS audit results, external verification EMS audits by third parties, changing circumstances, and the commitment to continual improvement. The management review shall be documented. Any changes to policies, plans, procedures and work practices that are made as a result of the review shall also be documented.
- 17.2 Maintain, at a minimum, the following related to its management reviews: a) schedule and scope for review; b) documentation of findings, evaluation, and follow-up actions; and c) documentation of changes to policies, plans, procedures, practices and other EMS elements that occur as a result of the management review findings, evaluation, or follow-up actions.
- 17.3 Assign a lead person or persons to be responsible for organizing and conducting the review.

CHAPTER 11: Examples of Nonconformance

The following examples provide guidance on how audit findings, supported by objective evidence, should be evaluated with respect to conformance and non-conformance. As stated in Chapter 4, failure to completely or adequately address the minimum requirements associated with each EMS Element shall likely constitute a finding by the auditor of a major nonconformance (see Chapters 6-10 for a list of minimum conformance requirements). In determining if a nonconformance should be categorized as major or minor, auditors shall draw on: the key interpretation sections of the *Auditor Guidance* that provide clarity on the NBP's expectations; the details and context of the particular situation; and their experience in EMS auditing and wastewater treatment and/or biosolids management.

These examples of nonconformance, by design, do not comprise an exhaustive list of potential nonconformance situations and are not intended to serve as a checklist for auditors or biosolids organizations. As described in Chapter 4, the auditor shall conduct transaction tests and examine outcomes to determine that the EMS is functioning and producing desired outcomes as intended, in addition to examining that an EMS has satisfied the minimum requirements of the *EMS Elements*.

Element 1. Documentation of EMS for Biosolids

- The auditor may find that an organization's EMS Manual does not contain or cross-reference all operational controls, procedures, processes and other management methods used to achieve and maintain compliance with legal and other requirements (Requirement 1.6 states that "all" should be included or cross-referenced). The severity of this nonconformance will vary depending on the number and importance of those operational controls, procedures, processes and other management methods that are not included or cross-referenced in the EMS Manual. For example, an auditor may consider the absence or lack of cross reference of certain SOPs (such as procedures for tracking digester temperature and retention time) as more important than others (such as procedures for hand washing), depending on how fundamental they are to achieve and maintaining compliance with legal and other requirements. Therefore, the auditor shall examine the details of the situation to determine if the nonconformance rises to the level of major or minor.

Element 2. Biosolids Management Policy

- Some employees or contractors associated with the organization's biosolids-related operations, processes, and activities are not aware of the organization's Biosolids Management Policy or the principles or commitments identified in the policy, despite the organization's efforts to communicate the policy. This might indicate that the organization's policy communication efforts are not sufficiently effective.

Element 3. Critical Control Points

- The organization has identified most, but not all of the relevant critical control points in the biosolids value chain (e.g., pretreatment, treatment, stabilization, storage and transportation, final use or disposal). The auditor will reference the *National Manual of Good Practice* and utilize

their understanding of the organization's biosolids management activities to discern if the missing critical control point(s) (and thus the associated environmental impacts and operational controls) are significant enough to warrant a major nonconformance under this element.

- While some actual and potential environmental impacts have been identified for each critical control point, not all environmental impacts have been sufficiently identified and documented.
- In the EMS documentation, some operational controls are not linked to critical control points.
- No rationale has been provided, verbally or in writing, to the auditor explaining why critical control points have been selected that are not consistent with the *National Manual of Good Practice* and other authoritative sources.

Element 4. Legal and Other Requirements

- Documented procedures for identifying and tracking legal and other requirements have not been fully implemented. For example, the auditor may find evidence that not all responsible individuals understand their roles or properly follow the procedure.
- The auditor observes instances of potential non-compliance that are unaddressed by the EMS either through lack of identification of a requirement or implementation of a procedure to maintain compliance and or respond to potential non-compliance.
- Gaps exist in the documentation and/or record keeping associated with one or more applicable regulatory requirements (e.g., a requirement has not been identified, no documentation exists for a requirement, or legally required records cannot be located).
- Some information on applicable requirements has not been incorporated into EMS-related documentation and activities.

Element 5. Goals and Objectives for Continual Improvement

- The goals and/or objectives do not fully support the organization's Biosolids Management Policy, the NBP *Code of Good Practice*, or another authoritative biosolids document.
- Goals and/or objectives have not been established to support continual improvement.
- Some of the organization's goals and objectives fail to meet the SMART criteria.
- The organization's action plan has not been recently updated, or it does not contain all required information (e.g., milestones, resources, responsibilities).
- The organization does not have continual improvement goals and objectives supporting each of the four outcome areas of environmental performance, regulatory compliance, relations with interested parties, and quality biosolids management practices.

Element 6. Public Participation in Planning

- Some parts of the public participation plan, or specific activities conducted, have not been fully documented.
- The public participation approach has not been fully implemented as documented.
- Some of the opportunities for public participation were not meaningful, as defined in Chapter 7, or were not appropriate for all interested parties.
- Public participation activities did not provide an opportunity to provide views and perspectives on certain required areas (e.g., program performance, environmental impacts, or potential areas for improvement).
- The public participation approach is not fully consistent with the degree of current public interest, history of public involvement, method of biosolids management, and related local circumstances.

Element 7. Roles and Responsibilities

- Defined roles and responsibilities, for both employees and contractors, do not fully cover the scope of biosolids management activities and EMS functions reflected in the EMS Manual.
- The organization has provided some, but not all, of the human, technical, and financial resources necessary to effectively execute these defined responsibilities.
- Documentation of roles and responsibilities of employees or contractors is incomplete.
- Some employees or contractors are not fully aware of or do not understand their biosolids management of EMS roles and responsibilities indicating that roles and responsibilities have not been clearly defined and/or assigned.

Element 8. Training

- Training program content does not match the skills, knowledge, and awareness required to support employees' roles and responsibilities. For example, some employees may not be receiving appropriate training given their assigned roles and responsibilities, indicating that the process for tracking employee training may be deficient or that the training program is not entirely consistent with employees' assigned roles and responsibilities.
- Records of individual training are incomplete or inaccurate.
- An employee or contractor is not fully aware of assigned roles and responsibilities or with biosolids management practices or operational procedures, indicating that training has been inadequate to assure employees are competent in performing their assigned tasks and duties.

Element 9. Communications

- The Communications Program is not fully consistent with local circumstances, the method of biosolids management, the organization's public communications history, and the degree of current interest in its biosolids management activities.
- The organization's Communications Program is not being fully implemented as documented or intended.
- Records for receiving, tracking, and responding to inquiries and requests for information from interested parties are incomplete or do not include sufficient information to ensure that the responses are timely and complete (e.g., tracking logs do not include dates that inquiries were received or responded to).
- Records, or the lack thereof, indicate that the organization's Communications Program fails to respond, or to respond in a timely manner, to inquiries and requests for information.

Element 10. Operational Control of Critical Control Points

- It appears that operational controls may not be sufficient to manage the actual or potential environmental or health impacts associated with *all* critical control point (Requirement 10.1 states that operational controls must be developed for "all" critical control points).
- The auditor finds evidence that, occasionally, procedures have not routinely been followed as documented.
- Some operational controls are outdated and need revision.
- An employee or contractor is occasionally not fully aware of the requirements outlined in an operational control, indicating that operational controls are not been fully implemented.

Element 11. Emergency Preparedness and Response

- Documented emergency preparedness response plans and procedures have not been fully implemented by the organization (e.g., lack of required equipment, inadequacy of training programs, absence of job site postings and procedures, lack of warning and hazard signs).
- Contractors' emergency preparedness and response plans and procedures have been established, but they have not been fully implemented.
- Some emergency response equipment is not on site or readily available.

Element 12. EMS Documentation and Document Control

- Standard operating procedures are not formatted consistently with version numbers, effective dates, and other required information, indicating the document control procedures have not been fully implemented.
- Some procedures have not been documented or that some records have not been maintained.

Element 13. Monitoring and Measurement

- Some monitoring and measurement procedures and practices are not documented or fully implemented. For example, inadequate monitoring and/or measurement practices are in place around some critical control points, or monitoring and measurement practices have not been fully implemented to track progress towards biosolids goals and objectives.

Element 14. Nonconformances: Preventive and Corrective Action

- Some corrective action plans do not include sufficient or appropriate information to prevent future nonconformances (e.g., identify changes to policies, programs, plans, operational controls and monitoring/measurement procedures to prevent future nonconformances).
- Some corrective action plans have not been updated or closed out.
- Some nonconformance investigations have not been conducted as required by the organization's procedure.
- The corrective action plans developed to address EMS audit findings do not follow the requirements established in Requirement 14.5 (i.e., Document corrective action plans and describe what actions will be taken to address the audit findings, the individuals responsible, the estimated completion date, and required resources to develop and implement corrective and preventive action. Include recommended changes to policies, programs, plans, operational controls and monitoring/measurement procedures to prevent future nonconformances. Document these changes in the corrective action plan and in the EMS Manual and other relevant EMS documentation.).

Element 15. Periodic Biosolids Program and EMS Performance Report

- The Biosolids Management Program Report does not include all required information describing progress towards goals, objectives, and legal/other requirements, how that progress is measured.
- Summaries of monitoring, measuring, and other results are not sufficient to demonstrate performance of the biosolids program.
- The periodic Biosolids Management Program Report has not been made easily available to interested parties (e.g., it is posted on the web site but is difficult to find).

Element 16. Internal EMS Audit

- Corrective action plans have been developed for some, but not all, nonconformances identified during an internal EMS audit.
- Some records of action plans are incomplete or missing.

Element 17. Periodic Management Review of Performance

- Periodic management reviews of the EMS and its performance have occurred, but some have deviated from the planned procedure, schedule, or scope.
- Some of the necessary changes to policies, plans, procedures, and work practices identified by the management review have not been fully made or documented. The assigned leader of the management review is not fully aware of the assigned responsibilities or the procedure for implementing the management reviews.

Glossary

Biosolids – solid organic matter recovered from a wastewater treatment process and used especially as fertilizer – usually used in plural.

Biosolids Management Activities - a wide range of activities that impact the quality of wastewater solids and biosolids, including pretreatment activities, wastewater treatment processes, solids stabilization processes, conditioning and dewatering processes, transportation, storage, and final use or disposal.

Biosolids Management Policy - statement by an organization committing it to the principles set forth in the NBP *Code of Good Practice* with respect to biosolids management and any other overall environmental goals voluntarily adopted by the organization.

Biosolids Management Program – a comprehensive program covering all aspects of the organization’s biosolids activities throughout the biosolids value chain, including management processes for all critical control points in order to mitigate environmental impacts, meet legal and other requirements, and execute action plans to achieve biosolids program goals and objectives.

Biosolids Program Goal(s)– environmental performance improvement goals that are consistent with an organization’s biosolids management policy to assure biosolids activities comply with applicable laws and regulations, meet quality and public acceptance requirements, and prevent other unregulated adverse environmental and public health impacts by effectively managing all critical control points. Biosolids program goals may include but are not limited to compliance with specific regulatory requirements, expanding beneficial use, improving biosolids quality, improving public acceptance and reducing or eliminating direct/indirect negative environmental impacts.

Biosolids Program Objective(s) – a detailed environmental performance improvement requirement, quantified wherever possible, based on a biosolids program goal. One or more objectives must usually be met in order for the underlying goal to be achieved.

Biosolids Public Acceptance Requirements - biosolids physical, chemical, biological, and aesthetic characteristics and management methods that must be met consistently and reliably in order to achieve public acceptance of the organization’s selected biosolids management method(s).

Biosolids Quality Requirements - biosolids physical, chemical, biological, and aesthetic characteristics that must be met consistently and reliably in order to apply the organization’s selection biosolids management method(s).

Biosolids Value Chain – sequence of activities from wastewater pretreatment, discharge and collection through wastewater treatment, solids treatment and handling, storage, transportation, and final use or disposal of biosolids that impact the quality and stability of biosolids and their suitability for the selected management method.

Continual Improvement – EMS process for systematically improving the overall management of biosolids to achieve the organization’s biosolids program goals and objectives set forth in the organization’s biosolids management policy and the National Biosolids Partnership *Code of Good Practice*.

Corrective Actions – specific actions and steps taken to correct an organization’s nonconformance(s) to policies, procedures, and other legal, quality, and public acceptance requirements, and to mitigate any resulting negative impacts on the environment.

Critical Control Points – those locations, unit processes, events, and activities throughout the biosolids value chain under the organization’s direct control or influence that require effective policies, programs, procedures, practices, monitoring, and measurements to assure the biosolids activities meet legal, quality and public acceptance requirements and do not have undesirable environmental impacts. Critical control points include all biosolids management activities that are covered under applicable legal and other requirements.

Emergency Preparedness - a structured emergency planning process to ensure that plausible emergency situations that can affect appropriate biosolids management have been identified, response plans and procedures developed, and trained emergency response personnel and equipment are available and in a state of readiness.

Emergency Response - specific emergency plans and activities that are initiated to contain an emergency situation and bring it under control so as to minimize environmental impacts.

EMS Audit (Internal) – a systematic internal audit process for objectively evaluating whether an organization’s environmental management system for biosolids conforms with the requirements of the *Code of Good Practice*, its Biosolids Policy, and the *EMS Elements*.

EMS Audit (Third Party Verification) – a systematic, structured audit of the organization’s biosolids EMS performed by a qualified independent third party auditor using a standardized protocol to verify conformance with the requirements of the *Code of Good Practice*, its Biosolids Policy, and the *EMS Elements*.

EMS Documents – various documents that collectively comprise the biosolids environmental management system documentation, including the biosolids management policy, procedures, practices, operating instructions, and other supporting documents required by the environmental management system and applicable biosolids laws and regulations.

EMS Records - various records/reports of biosolids management activities required by the EMS and applicable biosolids laws and regulations, including but not limited to records/reports of monitoring, measurement, laboratory testing, inspections, operating logs, emergency response incident, outside party inquiries, public participation meetings, audits, corrective actions, management reviews, and periodic performance reports. Records describe the results of specific biosolids management activities for a prescribed event, activity, and/or period of time.

Environmental Impacts – any change to the environment (positive or negative) including public health, public nuisance, and odor problems, that wholly or partially result directly or indirectly from the organization’s activities, products or services, including those activities associated with biosolids management, and those activities that alter (positively or negatively) the acceptable disposal/use method or create public nuisance and public health risks.

Environmental Management System for Biosolids (EMS) – an organized management system that meets the requirements of the *EMS Elements* for achieving the biosolids management policy requirements and for developing, implementing, reviewing, and maintaining effective biosolids management programs,

procedures and practices. The EMS needs to manage all critical control points associated with biosolids activities where there is a potential to create significant negative environmental impacts.

Interested Parties – individuals, groups, or other public/private organizations interested in, involved with, or otherwise affected by the organization’s biosolids management activities, including customers, farmers, regulators, and other local/state governmental officials, community residents, the media, environmental and public interest groups, university professors, and the general public.

Legal Requirements – the environmental federal, state, and local laws and regulations that are applicable to an organization’s biosolids management program activities.

Measurement - a systematic method for estimating, testing, or otherwise evaluating key parameters and characteristics of an organization’s biosolids management activities to determine compliance with a specific standard, regulatory or other performance requirement, or to measure progress toward its biosolids program goals and objectives.

Monitoring - a systematic process of watching, checking, observing, inspecting, keeping track of, regulating, or otherwise controlling key parameters and characteristics of an organization’s biosolids management activities to determine compliance with a specific standard, regulatory or other performance requirement, or to measure progress toward its biosolids program goals and objectives.

Nonconformance – a deviation in an organization’s established Biosolids Management Policy and Environmental Management System from the *Code of Good Practice* principles and/or the requirements of the *EMS Elements*. Nonconformances include circumstances that have the potential to create a noncompliance situation or significant environmental impact.

Noncompliance – a deviation from federal, state and local laws, regulations, and other compliance requirements applicable to the organization’s biosolids management activities.

Objective Evidence – policies, ordinances, procedures, manuals, inspection checklists, operating logs, annual reports, various other documents, and various records – monitoring, inspection, enforcement, training, etc., that objectively document conformance with the *EMS Elements* requirements.

Operational Controls – ordinances, regulations, standard operating procedures, practices, technology, instrumentation and process controls, monitoring, and other criteria developed, implemented, and maintained by an organization to ensure effective management of all critical control points associated with its biosolids management activities; including conformance with biosolids management policy requirements; and achievement of biosolids program goals and objectives.

Opportunity for Improvement - a program element that conforms to the minimum requirements outlined in the *EMS Elements*, but which may be improved by following suggestions, examples or benchmarks cited by the auditor.

Organization – enterprise, authority, or institution, or part thereof, responsible for individual or a combination of, biosolids management activities.

Other Requirements - other binding biosolids management practices and environmental requirements to which an organization voluntarily subscribes as part of its environmental management system. Examples include binding agreements with customers, suppliers, and public organizations and commitments to “beyond compliance” performance.

Practices - environmental management actions or techniques that are consistent with, or go beyond, regulatory requirements.

Performance - objective measures of practice/procedure outcomes on environmental endpoints and compliance.

Preventive Actions – specific actions and steps taken to identify, analyze, and eliminate the root causes of noncompliance(s) and nonconformance(s) and to put in place permanent solutions that will prevent a recurrence.

Procedures - replicable management system activities that support the consistent maintenance of practices and achievement of objectives.

Public Participation - specific approach(es) and action(s) taken by an organization to involve interested parties and the general public in its biosolids management program, including establishing improvement goals and objectives.

Requirement Verification -looks at specific EMS elements to determine if the organization's EMS satisfies the associated requirements, as defined in the *EMS Elements*.

Service Agreements - contractual or other legally binding agreements that define the roles and responsibilities of contractors and other groups supporting the organization's EMS for biosolids.

S.M.A.R.T. Criteria - Specific, Measurable, Achievable, Relevant, and Time-bounded criteria used to develop biosolids program goals and objectives.

Transaction Testing - enables auditors to assess how well various components of an organization's EMS function in practice - and how well they work together - from a broader systems perspective.

Document Control Log

Name / Title	Approved By	Approval Date
Third Party Verification Auditor Guidance	NBP Management Committee	November 2001

Revision Log

Revision Number	Description of Revision	Date
00	Original Issue	November 21, 2001
01	Incorporated approved program area recommendations on a) Appeals process and Board (section 5.5), b) Entry criteria and pre-audit status (section 3.4), and c) Program designation (section 5.4)	May 2002
02	Incorporated description of third party auditor certification and training requirements (sections 2.2 and 2.3)	November 2002
03	<p>Made revisions consistent with 2 sets of issue papers approved by the NBP Management Committee, covering the following topics:</p> <ul style="list-style-type: none"> • <u>Post Audit Activities and Minor Nonconformances</u> (clarified requirements for resolving minor nonconformances in sections 5.1.1 and 4.3) • <u>Audit Follow-up to Major Nonconformances</u> (added language indicating that the lead auditor may determine if an on-site visit is necessary to determine if major nonconformances have been addressed in section 4.3) • <u>Public Participation Outcomes</u> (renamed the “Public Participation” outcome area to “Relations with Interested Parties” in sections 4.5.3 and 4.5.6) • <u>Outcomes</u> (added text in sections 4.5.3 and to the Key Areas for Interpretation of Element 5 indicating that organizations should establish measurable goals and objectives that document improvement in each of the four outcome areas) • <u>EMS Manual</u> (added text from the EMS Guidance Manual into the key interpretive text for Element 1 	January 2005

	<p>indicating that the EMS Manual may cross-reference EMS procedures and key documents)</p> <ul style="list-style-type: none"> • <u>Biosolids Management Policy Statement</u> (added to Element 2 key interpretive text indicating that the policy must include an explicit statement of commitment to the 10 principles of the <i>Code of Good Practice</i> and providing additional guidance on how public agencies can demonstrate conformance to Element 2) • <u>Annual Performance Report</u> (added to Element 15 key interpretive text indicating that the demonstration agencies are not required to prepare a Biosolids Management Program Performance Report prior to receiving <i>initial</i>, third party EMS verification) • <u>Legal and Other Requirements</u> (added to Element 4 key interpretive text on procedures for identifying and tracking “other requirements”) • <u>Internal, Interim, and Re-verification Audits</u> (added to section 5.4 and 5.5 the schedule and scope for internal, interim and re-verification audits) • <u>Critical Control Points</u> (added to Element 3 key interpretive text referencing Appendix F of the <i>National Manual of Good Practice</i>) • <u>Terminology: Verification and Certification</u> (updated sections 1.4.1 and 1.4.2 to reflect requirements for EMS Program certification) • <u>Interested Party Notifications</u> (added text to sections 3.1 and 5.3 clarifying requirements for notifying interested parties about the third party verification and appeals processes) • <u>Operational Control and Standard Operating Procedures</u> (key interpretive text added to Element 10 about types of operational control and documentation of standard operating procedures) <p>Updated description of Desk Audits (Chapter 3) to clarify the purpose and include an optional on-site visit by the third party auditor as part of the desk audit.</p>	
04	<p>Made revisions consistent with NBP Steering Committee decisions on interim audit issues, and to reflect current processes for establishing audit contracts between NBP and the audit firms and NBP and the biosolids organizations.</p> <ul style="list-style-type: none"> • <u>Audit Application Process</u> (updated sections 1.4, 1.4.1, 1.4.3, 3.2 and 3.3 to clarify third party audit application and desk audit processes) • <u>Auditor Qualifications</u> (changed reference to former ANSI-RAB to RABQSA International for EMS Auditor certification requirements in section 2.1) 	March 2006

	<ul style="list-style-type: none"> • <u>Auditor Oversight and Evaluation</u> (inserted statement in section 2.4 that NBP staff will conduct random observation of third party audits to ensure NBP requirements are being met) • <u>Tiered Approach</u> (added placeholder, section 3.5, for future inclusion of the tiered approach to program recognition and deleted text about status of NBP demonstration agencies as demonstration phase has been completed) • <u>4-Year Interim Audit Plan</u> (added text to sections 4.2.7, 5.1.1, and 5.2.2 indicating that auditors and certified agencies should develop a 4-year interim audit plan that includes agency intent to substitute internal audits in eligible years) • <u>Closing Minor Nonconformances</u> (added text to sections 4.3 and 5.1.2 clarifying that only NBP third party auditors may verify correction of minor nonconformances found during a third party audit and that this does not necessarily need to be part of an on-site, third party interim audit) • <u>Contact with Regulators</u> (added a sentence to section 4.5.5 indicating that NBP encourages third party auditors to contact regulators as part of information gathering on regulatory compliance outcomes) • <u>Notification of Change</u> (added text to section 5.1.4 citing examples of changes that an organization should communicate to NBP and third party auditor, as well as text encouraging auditors to examine changes during the next, planned on-site third party audit) • <u>Interim Audits</u> (updated text in section 5.2 to indicate that interim audits may cost roughly 1/3 of the verification audit and clarified process for submitting an interim audit request form) • <u>Internal Audit Substitution</u> (updated section 5.2.2 to reflect change in years that agencies have option to substitute internal audit for third party interim audits) • <u>Internal Audit Scope</u> (clarified required scope for internal audits in general, interpretive text of Element 16, and in years where substituting for third party interim audit, section 5.2.2) 	
05	<p>Made changes consistent with NBP Advisory and Steering Committee recommendations. Also, made updates to be consistent with NBP administrative processes and to add more information about the appeals process.</p> <ul style="list-style-type: none"> • Updated process for third party auditor certification and removed reference to NBP training for third party auditors (sections 2.2 and 2.3) 	August 2007

	<ul style="list-style-type: none"> • Added description of 4 NBP tiers for program participation and recognition (section 3.5) • Added text regarding NBP expectations for on-site auditing of small organizations (section 4.1.2) • Added text clarifying NBP expectations for covering contractors under the EMS (section 4.2.5) • Added definition of an opportunity for improvement (section 4.3 and glossary) • Added role of NBP staff in resolving minor nonconformances that appear to be based on an auditor’s interpretation of the requirements of the EMS Elements that does not match up with the agency’s interpretation (section 5.1.1) • Added more information on the NBP appeals process and timeline (section 5.5.1) • Added information on appeals of minor nonconformance (section 5.5.2) • Indicated agency has flexibility to organize EMS Manual and/or program documents – NBP does not require Manual to have 1 chapter for each element (added key interpretive text to Element 1) • Indicated agency is expected to include state and federal regulator among identified interested parties (added key interpretive text to Element 6) • Indicated agencies have flexibility in how they demonstrate they are ensuring contractors are meeting applicable EMS requirements (added key interpretive text to Elements 7-13) • Indicated agencies have flexibility in how they incorporate legal and other requirements into operational controls (added key interpretive text to Element 10) 	
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