



MANAGEMENT ASSESSMENT QUALITY ASSURANCE GUIDANCE

IN SUPPORT OF

EM ENVIRONMENTAL SAMPLING AND ANALYSIS ACTIVITIES

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MANAGEMENT ASSESSMENT GUIDANCE

1.0 INTRODUCTION

This document is one of several guidance documents developed by the U.S. Department of Energy (DOE) Office of Environmental Restoration and Waste Management (EM). These documents support the EM Analytical Services Program and are based on applicable regulatory requirements and DOE Orders. They address requirements in DOE Orders by providing guidance that pertains specifically to environmental restoration and waste management sampling and analysis activities.

DOE 5700.6C Quality Assurance (QA) defines policy and requirements to establish QA programs ensuring that risks and environmental impacts are minimized and that safety, reliability, and performance are maximized. This is accomplished through the application of effective management systems commensurate with the risks imposed by the facility and the project. Every organization supporting EM's sampling and analysis activities must develop and document a QA program. Management of each organization is responsible for QA program implementation, assessment, and improvement. The collection of credible and cost-effective environmental data is critical to the long-term success of remedial and waste management actions performed at DOE facilities. Only well-established and management-supported assessment programs within each EM-support organization will enable DOE to demonstrate data quality. The purpose of this series of documents is to offer specific guidance for establishing an effective assessment program for EM's sampling and analytical activities.

Assessments are a management tool required to be implemented as part of an organization's QA program to help assure achievement of quality goals. They provide a documented means of detecting missing quality control requirements and potential problem areas. Assessments form one of the bases for quality improvement.

The Analytical Services Division, Office of Environmental Restoration and Waste Management (EM-263) has developed and is implementing an assessment program to evaluate EM's sampling and analysis activities, to ensure that approved management systems are implemented and effective.

1.1 Purpose

This guidance contains performance objectives and representative assessment criteria that can be used to conduct management assessments. To support this goal, the final version of this document will be provided both in hardcopy and on a 3.5-inch disk in WordPerfect format.

1.2 Scope

These performance objectives and criteria are being issued by EM-263 to serve as guidelines for EM-263's assessments and reviews of management systems. The performance objectives and criteria are provided as guidance to EM-support organizations who are required to assess management systems. EM-support organizations include all private sector, government, government-

owned/contractor-operated, and government-owned/government-operated organizations collecting analytical data for EM's environmental restoration and waste management programs. It must be recognized that not all of the performance objectives and criteria will apply to the same degree to all organizations or assessment activities. A graded approach based on program risk and resources must be developed, for example, the criteria considered would differ significantly for assessing a National Laboratory than a small subcontractor. Development and application of standardized procedures are consistent with the recognized need for interagency harmonization. This and other EM-263 guidance documents are being reviewed and developed to support this end.

2.0 PERFORMANCE OBJECTIVES AND CRITERIA

The performance objectives and criteria provided in the appendix to this document have been developed for the assessment of management activities associated with EM's environmental restoration and waste management programs. Primarily, they are to serve as guidelines for the assessment team members conducting the assessment. Since not all performance objectives and criteria will necessarily apply to all EM programs and projects, the users of this document must rely upon their knowledge of the project, the associated facilities, and their professional judgement, or rely upon the judgement of qualified environmental project management professionals, to determine the applicability of each performance objective and criterion.

The performance objectives describe component parts of a comprehensive program to conduct the project or program activities. Each performance objective contains a concise statement of that objective. This is followed by the criteria that must be generally satisfied in order to achieve the objective. The performance objectives are broad statements that are not directly measurable, and most measurements will, by necessity, be subjective. The performance objectives and criteria are designed to provide direction to technical and management personnel and are not intended to replace the professional expertise of the technical specialist. Because of the complex nature of environmental protection and the DOE system, the criteria may not necessarily address all activities associated with a performance objective. Consequently, there may be cases where a project and/or facility satisfies a literal interpretation of the criteria, but fails to achieve the performance objective. Conversely, it may be possible for the performance objective to be achieved even though not all of the criteria have been met. For this reason, the emphasis is on the performance objectives, and the criteria should be viewed as aids in evaluating them.

The performance objectives and criteria have been developed on a "programmatic" basis. That is, they are intended to guide assessment team members in evaluating the effectiveness of the programs and systems used by the project and/or facility to establish and implement sampling and analytical services management standards. This requires not only evaluation of compliance with agreements, environmental regulations, and DOE Orders, and conformance to accepted industry practices; but also whether the programs and systems are sufficient to provide reasonable assurance that defensible environmental sampling and analytical services can be achieved. Such an approach is especially beneficial for the assessment of large or complex projects and/or facilities where it would be impractical to conduct a compliance assessment that would cover all operations and locations. Further, a conventional compliance assessment is a "snapshot in time" and is not an effective predictor of future status. The programmatic approach focuses on the formal systems and programs used by the project and/or facility management to establish and implement EM's sampling and analysis activities. Evaluations of these programs and systems by experienced professionals should provide a reasonably accurate assessment of whether they are sufficient to provide defensible services.

The performance objectives and criteria address the key elements necessary for effective programmatic control. The performance objectives and criteria are written at a level that emphasizes policies and programs. It must be

understood by all users that the performance objectives and criteria are not amenable to "yes" or "no" answers. The mere existence of a formal program is not sufficient to satisfy a performance objective, nor can it be concluded that one of the criteria has been satisfied simply because it is addressed in the program documentation. Rather, it will be necessary for an assessment team member to evaluate whether the objectives and criteria are addressed in such a way, and with a sufficient degree of formality, that they will be satisfied if the programs are effectively implemented. This requires a detailed critical review of the formal policies, standards, procedures, and other documents and agreements that define the program. It is further necessary to evaluate program implementing procedures to determine whether they are sufficiently comprehensive and detailed to fulfill their purpose. It is then necessary to evaluate the effectiveness of the implementation; that is, the extent to which the activities are consistent with regulatory requirements and best management practices. These reviews must also include an assessment of the adequacy of internal control and oversight.

The level of knowledge and understanding of sampling and analytical services that is necessary to effectively conduct a management assessment is clearly not directly provided by the information contained in the performance objectives and criteria. The performance objectives and criteria must be supplemented by the knowledge and experience of the assessment team members and protocols such as DOE Orders, regulations and associated preambles, DOE and regulatory guidance documents, and other pertinent documents. The proper use of the performance objectives and criteria is for the assessment team members to use them to focus or direct their attention to the key elements that must be evaluated in an assessment. It is the responsibility of the assessment team members to use this direction to develop and implement a site- and/or project-specific assessment plan and lines of inquiry. Assessment findings may be based on a performance objective itself or a failure to satisfy one or more of the objective's criteria. The performance objectives and criteria are based on key elements of the programs.

Finally, the user of these performance objectives and criteria must recognize that this is a living document; that is, revisions are to be expected as regulations change and as the performance objectives and criteria are put into widespread use. Experience in the use of the performance objectives and criteria may reveal weaknesses, identify redundancies, and/or suggest needs for additional performance objectives or criteria. Recommended modifications, as well as general comments on the utility of the performance objectives and criteria, should be directed to the Analytical Services Division (EM-263) in the DOE Office of Environmental Restoration and Waste Management.

APPENDIX

SAMPLING AND ANALYSIS MANAGEMENT ASSESSMENT PERFORMANCE OBJECTIVES AND CRITERIA

PERFORMANCE ELEMENTS

BACKGROUND

1. ORGANIZATIONAL STRUCTURE
2. CULTURE AND ATTITUDE
3. FORMALITY OF SAMPLING AND ANALYSIS ACTIVITIES
4. INTERNAL COMMUNICATION
5. STAFFING AND RESOURCES
6. STAFF DEVELOPMENT AND TRAINING
7. PROGRAM EVALUATION AND REPORTING

BACKGROUND

Performance objectives and criteria for management assessments are being used by DOE assessment organizations, and many DOE organizations have developed their own set of performance objectives and criteria. EM-263 has chosen in this guidance to incorporate and modify the performance objectives and criteria from *Environment, Safety, and Health Management Performance Objectives and Criteria for Tiger Team Management Assessment* (Draft), August 15, 1991 and from DOE/EH-0229, *Performance Objectives and Criteria for Conducting DOE Environmental Audits*, January 1992.

The performance objectives and criteria presented in this appendix provide high-level guidance to the user for conducting a management assessment. The user should develop lines of inquiry based on the specific organization that is being assessed. In essence, the user should be grading the application of the performance objectives and criteria commensurate with the risk associated with the EM's sampling and analysis activities. Similarly, larger organizations with greater scopes of work may require more detailed systems and implementation plans than do smaller organizations with limited work activities. The lines of inquiry should be used to focus attention on practices, conditions, and situations that constitute potential problems and identify good practices. The lines of inquiry should not be so rigid as to preclude team members' judgments. Although the judgments of team members should determine the direction and extent of the review, documented references to suggest lines of inquiry help to ensure completeness and consistency.

The user should consider that, at the conclusion of a management assessment, the final objective is to answer the following questions for both the reviewing and reviewed organizations:

1. Has the reviewing organization clearly defined the performance criteria to be met by the reviewed organization in the assigned work? Do the actions of the reviewed organization's management reflect an appreciation of EM expectations and priorities?
2. Are accepted management practices demonstrated in the planning, organization, direction, performance assessment, and oversight of the program? Are ES&A priorities well defined and implemented? Do clear lines of accountability exist within line management?
3. Do management actions reflect an appreciation of ES&A considerations for their operations from the standpoint of risk and compliance?
4. Is communication through the chain of command effective?
5. Is management open to self- and external criticism?
6. Is there an effective system to identify and promptly act upon deficiencies?
7. Is management fully aware of program and facility conditions?
8. Have a positive culture and quality work practices been established within the organization?

9. Is there a bottom-to-top flow of information?
10. Are the employees empowered to accept ownership of their work products and committed to excellence?

1. ORGANIZATIONAL STRUCTURE

a. Performance Objective

The organizational structure should be established in such a manner that the functions, responsibilities, and authorities for EM sampling and analysis activities are clearly defined. Both oversight roles and line management responsibilities should be accommodated.

b. Performance Criteria

- 1) Organizational responsibility, authority, and accountability for sampling and analysis activities are defined in formal documents such as organizational charts, operations manuals, quality assurance manuals, mission statements, and unit charters.
- 2) Functional relationships between the sampling and analysis support groups and the line units are formally defined and understood.
- 3) Units with responsibility for oversight and the development of internal standards have sufficient independence and management support to implement their responsibilities.
- 4) Authority to make decisions related to sampling and analysis activities, including stop-work authority, is assigned to the organizational levels that can provide the most timely response to mitigate potentially adverse impacts.
- 5) There is a formal mechanism for reporting concerns and issues to higher levels of management.
- 6) Line and support organizational units understand and accept their respective roles and work in a cooperative relationship.
- 7) The effectiveness of the sampling and analysis organizational structure is periodically subjected to a formal review, and revisions are made when warranted.

2. CULTURE AND ATTITUDE

a. Performance Objective

The organization should exhibit a positive attitude and a culture committed to excellence.

b. Performance Criteria

- 1) Managers at all levels have demonstrated their commitment to excellence.
- 2) Both management and staff demonstrate, during interviews, an understanding and acceptance of the importance of excellence in sampling and analysis.
- 3) Individuals demonstrate a recognition of the environmental aspects of their job responsibilities.
- 4) Individuals demonstrate a sense of "ownership" of work.
- 5) Managers are personally involved with and participate directly in sampling and analysis activities (e.g., participate in audits and self-assessments, write and review procedures.
- 6) Sampling and analysis activities are an integral part of the budget and planning process.
- 7) There is a positive, open, and cooperative relationship between line and oversight groups.
- 8) Management encourages and readily accepts input on sampling and analysis from all employees, and protects individuals providing such input from reprisals.
- 9) Management and staff are fully cooperative and open with internal and external oversight groups.

3. FORMALITY OF SAMPLING AND ANALYSIS ACTIVITIES

a. Performance Objective

Sampling and analysis activities for EM programs and projects should be conducted in accordance with formal plans supported by controlled documentation.

b. Performance Criteria

- 1) Sampling and analysis activities are defined in formal plans, standards, and procedures.
- 2) A formal system is in place to translate regulations and DOE Orders into internal policies, standards, and procedures.
- 3) A formal system is in place to translate contractual and work order requirements into internal policies, standards, and procedures.
- 4) There is a system in place to verify that procedures for any activities that might impact the environment contain environmental protection sections.
- 5) A review system is in place to ensure that procedures are technically correct and current, and have a level of detail appropriate for the activities to which they apply.
- 6) Sampling and analysis procedures are reviewed on a regular basis to ensure that they are consistent with regulatory changes.
- 7) Procedures are part of a formal, auditable document control system.
- 8) Procedures and standards applicable on a facility-wide basis are issued from an organizational level with the authority to mandate implementation.
- 9) The document control system is designed to ensure that personnel have ready access to current versions of procedures.
- 10) Sampling and analysis activities are coordinated with operating units and integrated with operational activities in a manner consistent with environmental regulations, best management practices, and the organization's mission.

4. INTERNAL COMMUNICATION

a. Performance Objective

Formal and informal channels of communication should be utilized to provide management with the necessary information for decision-making.

b. Performance Criteria

- 1) Formal channels have been established for top-down, bottom up, and lateral communication of information.
- 2) Formal communication of directives associated with sampling and analysis activities is timely, and effectively reaches all responsible elements of the organization.
- 3) There is a formal system in place to allow personnel to anonymously communicate concerns to upper levels of management for resolution.
- 4) Employee concerns associated with sampling and analysis activities are addressed, and both the concerns and responses are documented and trended.
- 5) Informal channels of communication are encouraged as a means of developing a commitment and positive attitude.
- 6) The organization periodically assesses the effectiveness of communications, makes changes as necessary, and documents the results of the evaluations and changes made.

5. STAFFING AND RESOURCES

a. Performance Objective

Programs should be in place to ensure that staffing and resources are sufficient to ensure compliance with sampling and analysis requirements.

b. Performance Criteria

- 1) Support for EM sampling and analysis activities is provided in a timely, responsive manner.
- 2) Appropriate job qualifications are established and maintained for sampling and analysis positions.
- 3) A system is in place to identify both short-term and long-term staffing and resource requirements for both line and oversight units.
- 4) There is a system in place for the control and oversight of purchased materials, equipment, and services supporting sampling and analysis activities to ensure that they meet requirements.
- 5) A staff recruitment program is in place to ensure the availability of sufficient qualified manpower for sampling and analysis activities.

6. STAFF DEVELOPMENT AND TRAINING

a. Performance Objective

There should be a program in place to ensure that all personnel have received training appropriate for their job responsibilities.

b. Performance Criteria

- 1) Staff development and training programs are defined in a set of controlled documents, such as policies and procedures.
- 2) There is a process in place to evaluate and establish training needs for sampling and analysis personnel.
- 3) Training needs are incorporated in individual development plans for sampling and analysis personnel.
- 4) There is a formal process to ensure that training courses are developed at an appropriate depth.
- 5) There is a formal documented process for the periodic evaluation of the effectiveness of training programs.
- 6) The training record-keeping system is auditable and has provisions to ensure completeness and currency.

7. PROGRAM EVALUATION AND REPORTING

a. Performance Objective

The organization should have systems in place to effectively evaluate sampling and analysis activities, implement corrective actions, and report environmental concerns.

b. Performance Criteria

- 1) Programs for self-assessments, internal assessments, surveillances, and other oversight activities of sampling and analysis activities are defined in controlled documents and are comprehensive in scope.
- 2) Responsibilities, authorities, and accountabilities are clearly defined.
- 3) Evaluation of sampling and analysis activities are conducted periodically in accordance with a formally defined frequency or schedule that meets DOE requirements.
- 4) The results of assessments are documented in formal reports distributed to cognizant managers and staff.
- 5) A root cause analysis is applied to the results of assessments.
- 6) Findings, root causes, and corrective actions are tracked and trended in a formal system.
- 7) The systems used for EM sampling and analysis activities evaluations are periodically subjected to documented reviews and revisions are made as necessary.