



EPA Region 1 McCormack Federal Building

EMS Procedure

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4.5.1 Monitoring, Measurements & Calibration

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1.0 Purpose

- 1.1 The purpose of this procedure is to describe the process for monitoring and measuring operations and activities that can have significant environmental impacts. The intent of such monitoring and measuring is to track environmental performance, assess implementation and effectiveness of operational controls, and evaluate achievement of environmental objectives and targets, and compliance with regulatory requirements. This procedure also describes the process used to ensure operational control or monitoring equipment that require calibration are maintained, tracked and calibrated appropriately.

2.0 Scope

- 2.1 This procedure covers operations and activities that can have a significant impact on the environment, and applies to all EMS Core Team members, Internal Auditors and EPA employees when engaged in EPA-related work activities within the EMS fence line.

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3.0 Definitions

- 3.1 Environmental Key Characteristics: An element of an operation or activity that includes a measurement or an inspection process, the results of which supports evaluation of environmental performance of objectives and targets.
- 3.2 EMP/OC Worksheets: A type of form that is used for each Significant Environmental Impact to document objectives and targets, specific action plans or tasks to be performed to achieve the established objectives and targets, the schedule for implementation, who is responsible and what records are generated. Attachment 1 to the EMP/OC Worksheet is a listing of operational controls (OCs) with a description of who is responsible for their implementation, monitoring, maintenance, and who is responsible.
- 3.3 Monitoring: A systematic process of watching, checking, observing, inspecting, keeping track of, regulating or otherwise controlling key parameters and characteristics of a unit's management activities to determine conformance with a specific standard or other performance requirement, or to measure progress toward its environmental objectives and targets.
- 3.4 Measurement: A systematic method for estimating or evaluating key parameters and characteristics of a unit's management activities to determine progress made toward objectives and targets.
- 3.5 Environmental Performance: Measurable results of the environmental management system related to an organization's control of its environmental aspects, adherence with its environmental policy, and progress made toward its objective and targets.
- 3.6 Continual improvement: Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the organization's environmental policy.

4.0 Approach

- 4.1 Selection of Indicators: Performance indicators are selected as part of establishing environmental management program (EMPs) for significant aspects. They are selected to measure progress toward achieving established objectives and targets, or to indicate completion of specified tasks toward the achievement of established objectives and targets.
- 4.2 One factor to consider when selecting performance indicators for regulatory targets is the regulatory language that often specifies the unit of measure that needs to be monitored and controlled for the given environmental aspect. For example, recyclables can be measured by weight, volume or value.
- 4.3 Examples of indicators for the EMS may include: The percentage of employees that have not received awareness training.
- 4.4 Establishing Baselines: Having selected the performance indicators, the next step is to establish performance baselines so EPA can measure progress from a specific starting point. Baselines may not be appropriate for some objectives and targets, where, due to the nature of

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the activity, measurement over time may not be indicative of meaningful progress.

- 4.5 Measuring Indicators: Each identified indicator must also include the methods to be employed to monitor and measure that indicator so as to track progress. For example, if temperature is the indicator, the technological measurement method could be a thermometer, and the procedural methods would be the frequency of measurements or location of measurements. It is also important to specify the records that will be created with this information and where and for how long such records will be kept.
- 4.6 Utilization of EMS Performance Data: All information collected from monitoring and measuring progress toward attaining objectives and targets is an input into the periodic management review. The effectiveness of the EMS is in large measure determined by its effectiveness in meeting established objectives and targets.

5.0 Responsibilities

- 5.1 The Core Team, during the Management Review, is provided results of performance monitoring and progress made toward achieving established objectives and targets. This information, along with other inputs, is used by the Core Team to evaluate the continuing suitability and effectiveness of the EMS.
- 5.2 The EMS Coordinator is responsible for coordinating performance data collection efforts from unit supervisors and others. This data is summarized to brief the Core Team on performance results relating to key characteristics during the Management Review, as well as the progress toward objectives and targets and associated improvement programs.
- 5.3 Each employee is responsible for remaining aware of the established EMS Objectives and Targets requirements applicable to the performance of work tasks, products, or processes assigned to them, and to perform the work in accordance with the principles of the environmental policy.

6.0 Records and Related Documents

- 6.1 EMPs/OCs worksheets (contain identified performance metrics and OC monitoring and measurement)
- 6.2 Management Review Briefing (containing summary of performance data)

7.0 Distribution

- 7.1 The EMS Core Team's documentation lead has placed the most current version this procedure in an electronic repository. It is available electronically to users of the EPA Regional 1 intranet. Procedures are subject to revision. The EPA Intranet EMS Page (<http://r1-gis-web.r1.epa.gov:9876/oarm/ems/index.html>) has a link to the latest version.