SOLID WASTE

Environmental
Management
System

Committed to Continuous Improvement

EMS PROGRAM GUIDE

Iowa Solid Waste
Environmental Management System

February 2023

DNR IOWA DEPARTMENT OF
NATURAL RESOURCES

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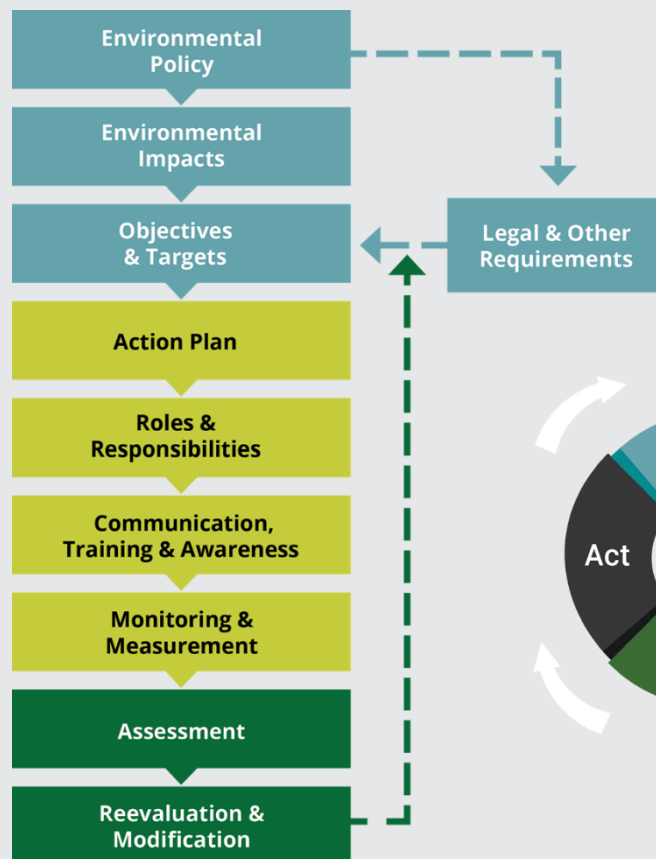Smith

CONTENTS

Chapter 1

INTRODUCTION

The Iowa Department of Natural Resources (DNR) developed the Solid Waste Environmental Management System (EMS) program as a voluntary alternative to Comprehensive Planning for solid waste planning areas and permitted facility service areas. Through the program, DNR assists participants in developing their own EMS for responsible environmental management and active pursuit of environmental stewardship goals beyond waste reduction. An EMS is a systematic framework made up of ten **EMS ELEMENTS** including policies, procedures, and training that work together following the proven Plan-Do-Check-Act model for continual improvement in six areas of focus, known as program **COMPONENTS**.

Actively Pursuing 6 Program Components	By Implementing a Framework of 10 Elements	For Continuous Improvement

GLOSSARY

Action Plan: A list of specific steps to be taken with assigned responsibilities, associated due dates and resources, needed to achieve an objective and target.

Assessment: A systematic, independent, and documented process for obtaining evidence and evaluating it objectively to determine the extent to which a set of criteria are fulfilled. Equivalent to "audit."

Audit: Equivalent to "assessment." External audits are conducted by DNR's designated auditor. Internal audits are conducted by the organization's designated auditor.

Auditor: Objective person with the competence to conduct an audit and has knowledge of an EMS system.

Continual Improvement: The process of enhancing a system in order to achieve improvements in environmental performance consistent with the organization's environmental policy.

Corrective Action: Action to fix and eliminate the cause of a detected nonconformance.

Document: Information and its supporting medium. The medium can be paper, magnetic, electronic, or optical computer disc, photograph or master sample, or a combination thereof.

Document Control: Effective management of system documents to ensure access to most current versions.

Environment: Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.

Environmental Aspect: An element of an organization's activities or products or services that can interact with the environment.

Environmental Impact: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from and organization's environmental aspects.

Environmental Management System (EMS): A system used to develop and implement an organization's environmental policy and manage its environmental aspects.

Environmental Performance: Measurable results of an organization's management of its environmental aspects.

Environmental Policy: Overall intentions and direction of an organization related to its overall environmental performance as formally expressed by top management.

Fenceline: The scope defining what is and what is not applicable to the EMS.

Interested Party: Person or group concerned with the environmental performance of an organization.

Key Resources: Budget, skills, staffing, partners, and additional needs to complete an action plan task.

Legal and Other Requirements: Relevant environmental laws, regulations and permits, worker health and safety regulations, as well as voluntary environmental commitments.

Management Review: Periodic review of the EMS by an organization's management to evaluate its environmental performance, determine the need for updates, and obtain strategic input to support its continual improvement.

Monitoring and Measurement: A documented process for monitoring key activities and measuring performance related to the specific environmental objective and target.

Noncompliance: Deviations from federal, state, and local environmental regulations.

Nonconformance: Non-fulfillment of a requirement.

Objective: A goal set to achieve an environmental change (i.e., target).

Operational Control: A plan, procedure, or physical device used to manage an organization's operations and activities to minimize risks.

Organization: Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.

Preventive Action: Action to eliminate the cause of a potential nonconformance.

Prevention of Pollution: Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.

Procedure: Documented specified way to carry out an activity or a process.

Record: Document stating results achieved or providing evidence of activities performed.

Target: Quantifiable performance requirement necessary to achieve an objective.

PARTICIPATION

Solid waste planning areas and permitted facility service areas may apply for EMS designation before February 1st of each year. Applicants approved by the Environmental Protection Commission become designated as Tier 1 EMS participants. This is considered the training and EMS development phase. Tier 1 participants receive twelve to eighteen months of specialized training from DNR along with guidance from a Tier 2 mentor and additional assistance, such as site visits, webinars and on-demand calls.

An EMS becomes a Tier 2 participant, receiving full EMS designation, after successfully implementing the EMS framework; demonstrating progress in pursuing their environmental goals by completing an audit and submitting an annual report by September 1st.

Both Tier 1 and Tier 2 participants participate in training, conferences and networking opportunities provided by DNR that are held throughout the year, including a Summer Workshop, Fall Conference and Internal EMS Auditor Training, among others identified in the **SCHEDULE SUMMARY**. In addition to regularly-scheduled events, individual assistance may be requested as needed.

EMS TIERS

TIER 1
For new participants
Training and EMS development phase
EMS designation, with some modification

TIER 2
Participants after 2nd year (typically)
EMS implementation phase
Full EMS designation

Chapter 4
INCENTIVES

DNR supports EMS participants with trainings, conferences and networking opportunities as well as financial incentives.

BENEFITS

- Recognition and support for improved environmental performance
- Decreased Comprehensive Planning requirements
- QuickStart and Annual EMS Grant opportunities
- Potential landfill tonnage fee savings
- Ongoing training and consultation with EMS experts and peers
- Improved communication and organization continuity

As DNR provides financial assistance opportunities through grants, EMS participants are encouraged to apply for these grants to help advance their environmental goals (i.e., objectives and targets). A cash match of up to 25% must be provided. Two rounds of grants are available. Participants may apply in both the non- competitive Round 1 in the fall and the competitive Round 2 in the spring. Up to $24,999 in financial assistance may be requested in Round 1, whereas participants may request up to the limit of all available funding for Round 2.

EMS participants may request financial assistance by timely submitting both a pre-proposal, as a prerequisite for submitting a grant application, and a grant application. For consideration, DNR must receive submissions by 4:00 PM on the due date. Additional information is available on the EMS website.

GRANT DUE DATES

ROUND 1
Pre-proposal: September 15
Application: November 1

ROUND 2
Pre-proposal: February 15
Application: April 1

EMS PROGRAM

An EMS is a systematic framework for managing operations to help participants identify and reduce environmental risks and improve environmental performance. The International Organization for Standardization (ISO) developed an EMS standard, known as ISO 14001, that is based on the Plan-Do-Check-Act method to help organizations manage obligations and risks. Repeatable steps are specified and implemented to achieve objectives and to create an organizational culture that engages in a continuous cycle of self-evaluation, correction and improvement of operations and processes through heightened employee awareness and management leadership and commitment.
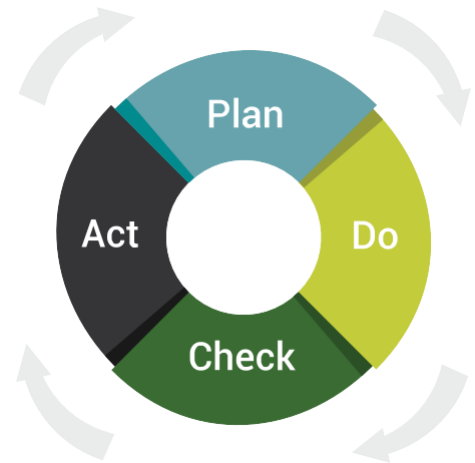
This standard specifically, helps organizations identify, manage, monitor and control their environmental issues, not exclusively focused on compliance requirements. It requires they consider all environmental issues relevant to operations, such as air pollution, water quality issues, climate change mitigation and adaptation, and resource use and efficiency. This standard is a natural fit for solid waste facilities whose core function is related to the environment.

Through a collaborative effort, stakeholders, legislators and Department staff developed the Iowa DNR EMS Program as an adaptation of the ISO EMS standard that lends itself to the unique operational situation for DNR and the participants. The purpose was to provide an alternative to Comprehensive Planning that improves environmental performance in a way that is not based on the diversion rate, recognizing that diversion alone has limitations.

The EMS Program was defined under Iowa Code 455J and Iowa Administrative Rules Chapter 567- 111 accessible at the following internet address: https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Solid-Waste/Solid-Waste-Policy-Rules

CONTINUOUS IMPROVEMENT CYCLE

COMPONENTS

Six components were identified as areas of focus for the EMS Program, given the nature of the participating agencies and their potential impacts on the environment.

EMS COMPONENT AREAS
Solid Waste Environmental Management System
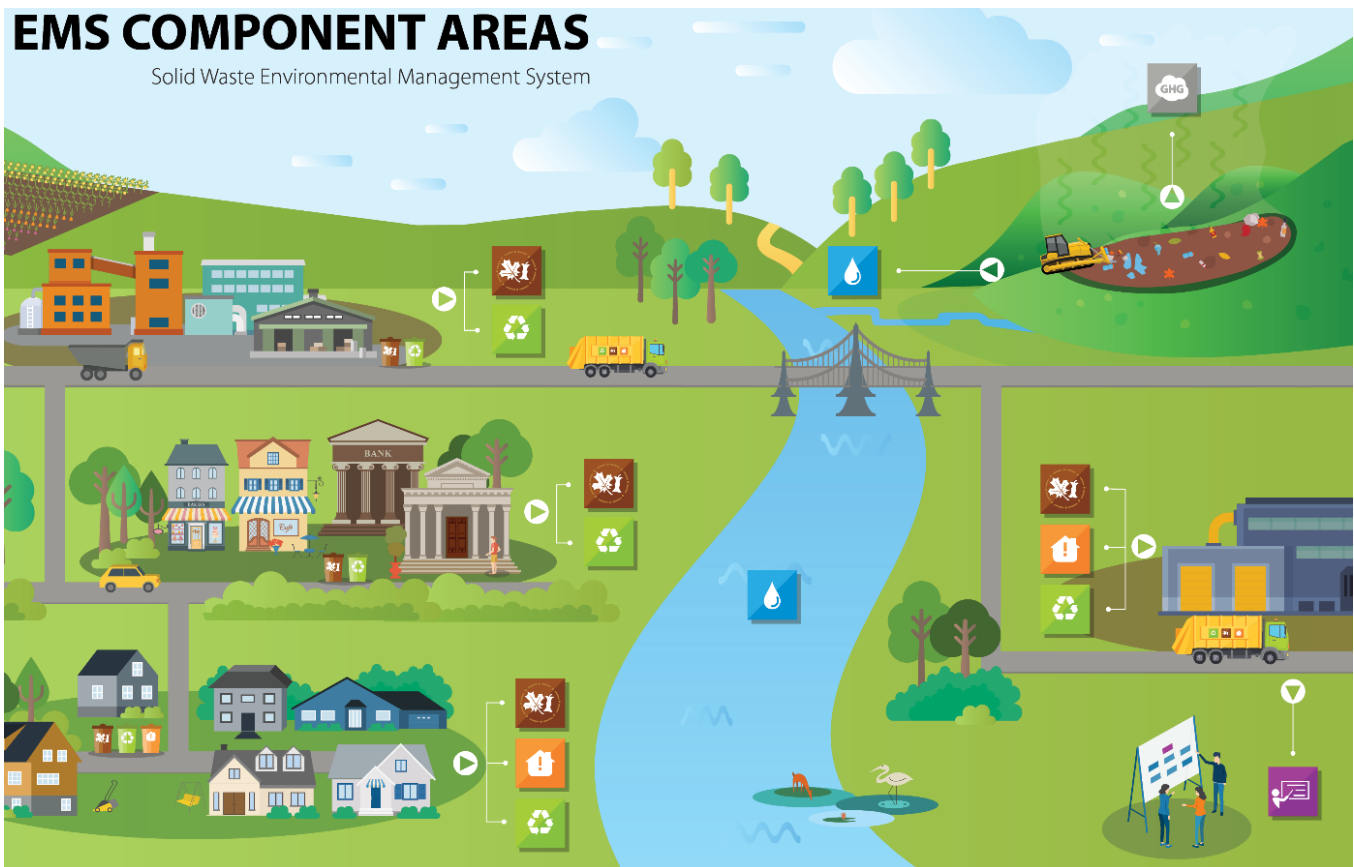
Organics Management
Landfill material is comprised of 30% organics, which can be processed into beneficial products, such as compost.

Recycling Services
Landfill material is comprised of 50% recyclables that can be processed into feedstock for new products in lieu of virgin materials.

Greenhouse Gas Reduction
Emissions from fossil fuel consumption or the decomposition of organic materials can contribute to global climate change.

Water Quality Improvement
Litter, illegal dumping, or erosion caused by stormwater can pollute valuable water resources.

Household Hazardous Materials Collection
Cleaners, automotive products and pesticides generated in the home and yard can have a disproportionately harmful effect when not managed appropriately.

Environmental Education
Outreach to the community informs students, residents and businesses about material and waste management practices.

EMS ELEMENTS

The ten elements of an EMS work together to form a systematic process. At a high level, the process consists of the following:

Plan

The organization builds the elements of the EMS, specific to their needs. An environmental policy is established formalizing a commitment. Environmental priorities (or aspects and impacts) as well as legal requirements are identified and ranked to provide a focus for the organization. Environmental objectives are set with specific targets for measuring progress. Roles and responsibilities necessary to carry out the EMS are identified.

Do

The organization implements the EMS. Action is taken towards the environmental objectives and targets. This is accomplished through the use of action plans, training, communication, documentation and environmental controls. Results are monitored and measured to track performance.

Check

Performance of objectives and targets is evaluated to identify progress or areas of improvement. A review or audit of the EMS is also conducted. Senior Management is involved in evaluating the results and identifying necessary modifications.

Act

Any gaps in the EMS or compliance are documented and corrected. The EMS is modified as necessary.

10 ELEMENTS OF AN EMS

Continued participation in the EMS Program requires successful implementation of the EMS, meaning that the ten elements of the EMS are in place and functioning such that the process of continual improvement is maintained. Each of the ten elements are detailed in the following subsections.
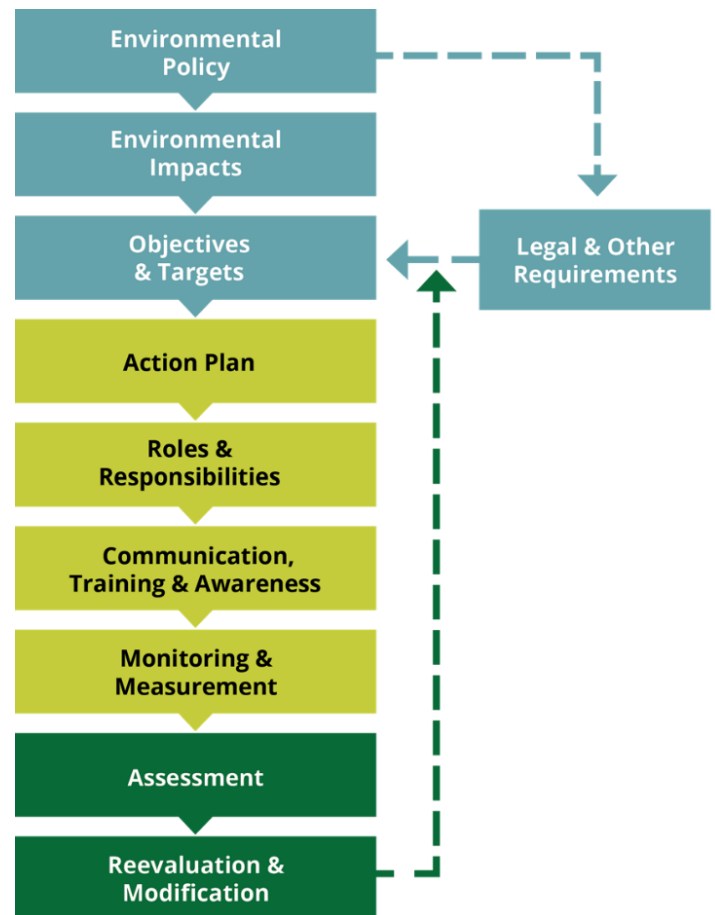
1. ENVIRONMENTAL POLICY

A commitment to environmental improvements is stated.

To ensure that the participant is fully committed to improving environmental outcomes, the EMS program specifies a process for establishing an environmental policy. The environmental policy is a statement of the organization's commitment to improving environmental performance. Environmental policy statements can vary greatly based on organizational needs and goals, and therefore may be unique to each organization but must include the following three criteria.

Environmental Policy Criteria

- Express intentions related to environmental performance

- Establish a framework for action and setting objectives and targets

- Commit to continual improvement through an EMS

The policy statement must be documented and approved by top management. Their support and leadership are critical for the success of the EMS and can serve to set an example to staff of placing importance on improving environmental performance.

The policy statement can be used to educate staff and the public on the organization's environmental commitment to pollution prevention, environmental compliance and continual improvement.

EXAMPLE

ENVIRONMENTAL POLICY STATEMENT

"The Great Iowa Waste Agency is committed to improving environmental stewardship in the service area. This commitment will be demonstrated through continual improvement, utilizing an EMS to serve as a framework for pursuing objectives and targets for our operations, services and programs."

Various methods can be used to assist in raising awareness of the policy. Developing a pneumonic aide such as an acronym or catchy slogan or development of visual aids such as banners, shirts, pocket cards or posters can help promote the policy and keep it top of mind.

As part of establishing a policy, a participant must develop a fenceline statement for the EMS, defining the facilities, programs, services and physical boundaries that the policy applies to. Participants should consider which stakeholders should be included (e.g., employees, contractors, visitors, etc.) as well as operations.

DOCUMENTATION	RESOURCES
• Policy Statement (Required) • Fenceline Statement (Required)	• Policy Statement Examples

2. ENVIRONMENTAL IMPACTS

Causes and effects on the environment are identified and ranked.

In order to improve environmental performance, the EMS program identifies a process for identifying high priority areas of focus, based on the effects an organization has on the environment. An environmental aspect is an activity or service that can interact with the environment. An environmental impact is a change, positive or negative, to the environment. The program Components serve as a basis for identification of aspects and impacts as they are common to solid waste agencies.

A participant must evaluate the organization's impacts on the environment through a process that involves identifying and then prioritizing aspects and their associated impacts to rank their significance. An organization may define the criteria for prioritization such as level of control over the activity, financial burden or relative magnitude of environmental impact. The environmental aspects and impacts that the organization identifies as the highest priority become their significant aspects and impacts.

All significant aspects and impacts must be addressed in the EMS to ultimately improve environmental outcomes, primarily through the adoption of an objective and target. Participants must document the process in determining activities, impacts and significant impacts through development of an Environmental Aspects and Impacts Procedure.

The procedure should include responsibilities as well as activities, aspects and impacts. A list of the organization's environmental aspects and impacts with the significant aspects and impacts identified must be documented. Significant impacts should be updated on a regular basis to accurately reflect the organization's goals.

EXAMPLES

ENVIRONMENTAL ASPECTS	ENVIRONMENTAL IMPACTS
Landfill gas management	Air emissions
Facility building operation	Energy/fuel consumption
Landfill cover management	Material consumption
Landfill leachate management	Water resources degradation
Food waste management	Waste generation

DOCUMENTATION	RESOURCES
• Environmental Aspects and Impacts Procedure (Required) • List of Significant Aspects and Impacts (Required)	• Activities and Impacts Template • Aspects and Impacts Procedure Example • List of Significant Aspects and Impacts Example

3. LEGAL & OTHER REQUIREMENTS

Requirements are identified.

In order to facilitate ensuring that all requirements are met, the EMS program includes a process for identifying and incorporating current relevant, applicable regulatory requirements and voluntary commitments pertaining to the environment. Establishing this process helps to promote clarity and also continuity during times of transition.

Participants must identify and keep track of all legal and other requirements that are applicable to their organization and activities, providing documentation on a Legal and Other Requirements list, and ensuring compliance with the requirements. As requirements are subject to change it is important that this list and potentially applicable legal requirements are reviewed periodically to ensure that the list is current and that relevant new or changing requirements are accounted for.

Participants must develop Legal and Other Requirements Procedure that assigns responsibilities to staff and documents how Legal and Other Requirements are identified and documented on a Legal and Other Requirements List. The procedure must also include a process for ensuring the list is kept current by tracking, reviewing and updating the list on a periodic basis. The procedure must describe how changes in regulations will be incorporated into the EMS.

EXAMPLES

LEGAL REQUIREMENTS

- IAC 567-111
- Stormwater Pollution
- Prevention Plan (SWPPP)
- Spill Prevention, Control & Countermeasure (SPCC)
- Occupational Safety and Health
- Administration (OSHA)
- Resource Conservation and Recovery Act (RCRA)
- Environmental Permits (e.g., landfill permit, stormwater permit, etc.)

OTHER REQUIREMENTS

- Energy Star
- Management Directive
- EPA/DNR Commitments
- Voluntary Commitments

DOCUMENTATION	RESOURCES
• Legal and Other Requirements Procedure (Required) • List of Legal and Other Requirements (Required)	• Activities and Impacts Template • Aspects and Impacts Procedure Example • List of Significant Aspects and Impacts Example

4. OBJECTIVES & TARGETS

Achievable goals are established focusing on environmental change.

Objectives are goals set to achieve an environmental change. The EMS program requires participants to actively pursue environmental improvements in the six component areas, so objectives must address each area. Objectives should consider the commitments of the organization's environmental policy statement and the priorities identified as the organization's significant environmental aspects.

For each objective, a quantifiable performance requirement, known as a target, must be set to demonstrate the intended outcome of the objective. The target should be specific, realistic and reasonably accomplished with available resources. A mix of target time lengths should be considered, including annual, multi-year and active ongoing.

Each target needs to be tracked over time to assess performance. Identifying a baseline point or range will assist in comparison. Each target should include time periods, locations, quantities and an associated unit of measure, known as a metric, such as volume, weight, duration, distance, etc. Metrics should be established that can accurately measure the intended outcome and also serve as a practical measurement that staff or a contractor can collect during the regular course of business.

Objectives, targets and metrics must be set, documented, reviewed and kept current. To assist in this process, DNR established a complete Objectives and Targets Guide with step-by-step instructions and helpful tips for reference.

EXAMPLES

OBJECTIVES, TARGETS AND METRICS

	Increase compost distribution from site 1 to 11,700 tons during FY2024
	Increase Very Small Quantity Generator access to 20 appointments in CY2024
GHG	Increase litter removal from waterways to 1,200 pounds in CY2023
	Decrease natural gas use in office building to 3,000 ccf annually during FY2025
	Increase interaction to 250 residents in month after recycling campaign launch
	Increase website traffic to 300 users during CY2023

DOCUMENTATION	RESOURCES
• Objectives and Targets Procedure (Strongly Recommended) • Objectives and Targets with Action Plans (Required)	• Objectives and Targets Guide • Objectives and Targets Template • Objectives and Targets Procedure Examples

5. ACTION PLANS

Specific steps are identified to achieve environmental goals.

To facilitate progress towards achieving objectives and targets, the EMS program specifies a process for creating and executing action plans. For each objective and target, a participant must create an action plan that lists specific steps to be taken and identifies assigned responsibilities, associated due dates and resources needed. This helps to create a process for reporting and tracking.

As the specific steps will likely involve various people and resources, it is recommended to include a complete team in creating the action plan. Technical experts and past projects can be used as a guide. Action plans should be detailed enough for the organization and should reflect limitations of staff, budget and resources. Consideration should be taken to make sure the action plan is reasonable and includes sufficient contingencies. Where appropriate, action plan steps should be integrated into current business processes.

Action Plans must be set, documented, reviewed and kept current. As plans change or additional information becomes available, the Action Plan are to be updated so they are current. Documentation of revisions including dates and personnel reviewing or approving changes should be included as well as notes on how the baseline was established and how data is collected. A written procedure is not required. Step-by-step guidance for developing an action plan is provided in the Objectives and Targets Guide.

DOCUMENTATION	RESOURCES
• Objectives and Targets with Action Plans (Required)	• Objectives and Targets Guide • Objectives and Targets Template • Objectives and Targets with Action Plan Example

6. ROLES & RESPONSIBILITIES

To carry out the EMS, necessary duties are defined for individuals.

The EMS program establishes a process to ensure that roles and responsibilities are identified to carry out the EMS. Participants must identify those individuals who are responsible for developing, managing, and implementing the different components of the EMS. In establishing clear roles and responsibilities, it provides clarity for all parties involved and assists with transitions.

In general, Senior Management is to designate an Environmental Management Representative (EMR) who has the primary role for managing the EMS. The EMR should be supported by an EMS Core Team responsible for implementing various components of the EMS and coordinating with staff. Many EMS activities will be managed through the EMR and EMS Core Team. Roles and responsibilities related to EMS activities include training staff, updating documents and procedures, reporting on corrective actions and audit findings, monitoring and measuring metrics, and maintaining records.

EMS roles and responsibilities must be documented in a list, table, or matrix. The roles and responsibilities must also be communicated to each responsible party in order for the EMS to run efficiently. Other roles and responsibilities may be documented in the action plans for objectives and targets.

EXAMPLES

ROLES & RESPONSIBILITIES

EMR
- Primary point of contact for the EMS
- Responsible for coordinating EMS development and implementation
- Reports EMS progress, implementation and challenges to Senior Management

EMS Core Team
- Assist the EMR in building the EMS
- Brings operational knowledge to the EMR
- Reviews draft procedures/ documents for accuracy
- Disseminates information to staff

Senior Management
- Makes policy commitment
- Has authority to commit staff to training
- Allocates funding and control of budgets
- Receives and addresses EMS complaints

DOCUMENTATION	RESOURCES
• Roles and Responsibilities Table, Matrix or List (Required) • Objectives and Targets with Action Plans (Required) • Core Team Meeting Minutes (Required)	• Roles and Responsibilities Table Template • Roles and Responsibilities Table Example • Meeting Minutes Template

7. COMMUNICATION, TRAINING & AWARENESS

To carry out the EMS, necessary duties are defined for individuals.

Communication is key to success within an EMS as it garners support to build an effective management system, builds knowledge of the environmental considerations, and develops stakeholder awareness that is crucial to many objectives and targets. The EMS specifies a process for ensuring participants plan for, provide and document communication, training and awareness for their internal and external stakeholders.

The goal of internal communications is to systematically raise the EMS awareness of internal staff. Communications can help to accomplish this, but specific training may be helpful or required to empower responsible individuals with the knowledge to carry out assigned duties. Training may focus on different areas such as environmental compliance and associated requirements, competency and/or license requirements such as 40-Hour HAZWOPER, general EMS awareness training, minimizing environmental impacts, responsibilities for objectives, targets, and associated action plans, and environmental stewardship.

External communication is intended to raise awareness of the EMS and external participation in achieving objectives and targets.

EXAMPLES

COMMUNICATIONS

- Electronic media such as emails, virtual newsletters or websites
- Printed media such as newsletters, posters and brochures
- Meetings
- Earth Day Celebrations
- Pollution Prevention Week
- Awards or recognition programs

Public events and various electronic or printed media can be used to communicate with the community about the organization's environmental policy and top objectives and targets.

It is also important to document external communication such as requests, questions, or comments from the public. EMS employee training and awareness are vital to achieving continual improvement within the organization.

DOCUMENTATION	RESOURCES
• Communication, Training and Awareness Procedure (Required) • Training List or Matrix (Recommended) • Training Records (Required) • Log of Public Information Requests with Responses (Required)	• EMS Awareness Graphics Package • Communications, Training and Awareness Procedure Example • Training Matrix Example

8. MONITORING & MEASUREMENT

Data is collected and analyzed to determine progress.

For the purpose of tracking performance, the EMS program specifies a process to establish monitoring and measuring of key metrics associated with the objectives and targets. In practice, this means that data on each metric must be tracked, documented over time and analyzed to determine progress. An organization should carefully consider how to objectively collect and analyze data. This may vary by metric. In some cases, progress may be shown by completion of a task, such as developing a report or training of staff, that are one-time instances. The Objectives and Targets Guide describes how to demonstrate progress according to target type (i.e., annual, multi-year or active ongoing).

Having the ability to track performance helps a participant to identify hurdles or setbacks to address. Identifying challenges during implementation of an action plan provides an opportunity to change course and make necessary adjustments to meet the target. Similarly, evaluating progress can be used as a demonstration of success of the EMS.

Participants must develop a written procedure to document their monitoring and measurement process, including how to identify, collect and analyze data. The procedure must be reviewed and kept current. Records of the data sets that are monitored and measured must also be kept.

DOCUMENTATION	RESOURCES
• Monitoring and Measurement Procedure (Required) • Monitoring and Measurement Data (Required) • Calibration Procedure (Recommended)	• Monitoring and Measurement Procedure Example • Objectives and Targets Guide

9. ASSESSMENT

Performance of the EMS is systematically checked.

The internal EMS audit process is an important step for participants to proactively assess the state of the EMS so that they can then address areas of weakness in pursuit of continual improvement.

Note that DNR conducts external audits as well on an annual basis, as described in **DNR ASSESSMENT**. While compliance audits may be conducted to assess conformance with local, state and federal laws and regulations, EMS audits are conducted to determine conformance with the EMS specifically. DNR developed an Audit Guide to assist with this process and offers internal auditor training periodically.

The participant must establish and document a procedure for having an internal auditor conduct an annual EMS audit. The auditor is to develop an audit plan and conduct the audit with interviews, documentation reviews and site observations.

By encouraging conversation with staff members about the EMS and their views on the environment, the auditor assesses the strengths and weaknesses and their conformance with each of the ten elements. The auditor prepares a report documenting the findings of the EMS audit according to the identified categories.

DEFINITIONS

FINDING	DEFINITION
Met	Satisfied standard fully
Commendable	Satisfied standard fully and also demonstrated innovation or exceptional effort
Opportunity	Satisfied standard fully and there are suggested improvements for consideration
Partially Met	Satisfied standard partially. Root cause to be analyzed and nonconformance addressed before the next audit.
Not Met	Standard not satisfied. Root cause to be analyzed and nonconformance addressed in a manner approved by DNR.

DOCUMENTATION	RESOURCES
• Audit Procedure (Required) • Internal Audit Results (Required) • Internal Audit Plan Summary (Recommended) • Audit Checklist (Recommended)	• EMS Audit Guide • Internal Audit Plan Summary Form • Internal Audit Sample Questions • Audit Checklist • Audit Notes Template • Internal Audit Procedure Example

10. REEVALUATION & MODIFICATION

Performance is evaluated to identify necessary changes.

The EMS program specifies a process for reevaluating and modifying a participant's EMS. First, it requires review of the EMS audit to identify and address non-conformance findings, identified as "partially met" or "not met." Instead of simply correcting the issue, the EMS program requires that the underlying root cause of the issue is investigated and identified, and that both short-term corrective and long-term preventive actions are implemented to address the issue and prevent recurrence. A Root Cause Analysis Guidesheet has been prepared to assist participants through the evaluation. Typically, the EMR will guide supervisory staff through this analysis and the EMS Core Team will review analyses and monitor systemic issues identified.

The EMS program requires a management review process to be conducted by with senior management annually. Management support and feedback of the EMS is critical for ensuring the success of the EMS. The purpose of the review is to keep senior management informed of EMS proceedings, provide an opportunity to review elements of the EMS and receive direction to drive the organization's continual improvement process. It gives staff and management time to discuss environmental improvements and communicate about additional resource needs.

EXAMPLES

ROOT CAUSES

- Human factors (training, supervision, distraction, etc.)
- Design or equipment defect
- Records/documentation
- Purchasing practice
- Permit incomplete
- Maintenance failure
- Standard operating procedure deviation
- Lack of standard operating procedures

Typically, the EMR schedules and facilitates the management review session. Records of this review must be maintained (e.g., meeting agendas, meeting minutes, sign-in sheet, etc.). Once changes are identified, the EMS should be revised with supporting procedures or documentation updated and changes communicated to relevant staff or stakeholders.

EMS procedures and documents must be reviewed periodically (i.e., at least annually) to ensure they are accurate and current. It is recommended that this review process is incorporated into the management review process.

DOCUMENTATION	RESOURCES
• Reevaluation and Modification Procedure (Recommended) • Nonconformity/Corrective Action Records (Required, as applicable) • Management Review Records (Required)	• Root Cause Analysis Guidesheet • Corrective/Preventive Action Request (CPAR) Form • Management Review Procedure Example

DNR ASSESSMENT

Performance of the EMS is confirmed by DNR.

As the program administrator, DNR (or its designee) schedules and conducts annual external audits to confirm EMS conformance status and evaluate participation in the program. As a best practice, the participant completes its internal EMS audit in advance of the external audit to help fully prepare for the external audit. The participant may be asked to host the audit and is to facilitate access to records as described in **DOCUMENTATION** and coordinate interviews with personnel.

DNR will issue an audit report to the participant describing the audit results, using the same audit terminology as described in **ASSESSMENT**. Based on the audit results, DNR may require that the participant conduct additional tasks to fully satisfy EMS elements.

PARTICIPANT CONFORMANCE

- Continual improvement in environmental performance
- Implementation of the ten EMS elements
- Active pursuit of progress in EMS Component areas
- Submission of EMS Annual Report
- Completion of corrective actions, as applicable

DNR REPORTING

Performance is reported to DNR.

Participants must provide EMS Annual Reports to DNR by September 1st documenting the status of the EMS covering the preceding state fiscal year from July 1st through June 30th. The September 1st due date and contents of the EMS Annual Report are established in IAC 567-111 and must be strictly adhered to in order to remain in the program.

DNR provides an EMS Annual Report form to be completed with general information about the participant, an overview of the participant's operations and regulatory compliance status, and confirmation of commitment to continuous improvement. The participants are to develop an executive summary with information on each objective and target, including a summary of the environmental impact; explanations of successes, setbacks or changes; and plans for the future. In developing the executive summary, participants should consider how best to convey information so that it is clear, concise and meets all the required elements. Information should be presented with relevant details to allow DNR to understand the context behind any setbacks or changes to the plan.

Additionally, if financial assistance was provided through the DNR grant program, progress must be reported per the grant agreement. These reports provide DNR with the necessary information to evaluate performance.

DNR reviews the reports and submits a summary to its Environmental Protection Commission by January 1st annually.

DOCUMENTATION	RESOURCES
• EMS Annual Report (Required)	• EMS Annual Report Form • Executive Summary Template for Annual Report • Objective and Target Section Template for Annual Report

DOCUMENTATION

Documentation to support the EMS are maintained.

As described in the **EMSELEMENTS** chapter, participants are to develop and maintain applicable documentation. Policies and procedures are to be reviewed periodically as described in the Reevaluation and Modification process. To assist in document retention and access, DNR established an online method for sharing documentation using Dropbox™ web-based folders. Participants are provided access to their specific Dropbox™ folder with numbered subfolders, corresponding to the EMS elements.

EMS participants are to ensure that current documents are uploaded in the appropriate Dropbox™ subfolders, especially two weeks prior to their annual external audit meeting, at which time they are not to be revised. Similarly, current documents should be available at the time of the annual report submittal on September 1st. Documents should be retained that pertain to: 1) the most recent annual report; 2) the most recent external audit; and 3) an upcoming external audit. Other documents may either be deleted or stored in subfolders labeled "Archived", "Retainage File" or alike.

SHARED FOLDER CONTENTS

1 Environmental Policy Statement
• Environmental Policy Statement
• Fenceline Statement

2 Aspects & Impacts
• Environmental Aspects and Impacts Procedure
• List of Significant Aspects and Impacts

3 Legal & Other
• Legal and Other Requirements Procedure
• List of Legal and Other Requirements

4/5 Objectives & Targets
• Objectives and Targets including Action Plan
• Objectives and Targets Procedure*

6 Roles & Responsibilities
• Roles and Responsibilities Table
• Core Team Meeting Minutes

7 Communication & Training
• Communication, Training, and Awareness Procedure*
• Training Records
• Public Information Request Log with Responses

8 Monitor & Measure
• Monitoring/Measurement Procedure
• Monitoring and Measurement Data
• Calibration Procedure*

9 Audit & Assess
• Audit Procedure
• Internal Audit Results
• Other Audit Documents*

10 Reevaluation & Modification
• Reevaluation Results
• Nonconformity/Corrective Action Records
• Management Review Records Reevaluation and Modification Procedure*

Annual Report
• Annual Report

* Not required but strongly recommended.

BEST PRACTICE SUMMARY

Implementing an EMS can be a challenge as there may be limited resources, staff may already have a lot of different responsibilities, and the EMS may represent a change from traditional practices. The EMS can be planned and implemented to improve efficiencies within operations however.

BEST PRACTICES

- Engage with management to establish support
- Involve staff early and often to obtain buy-in and ensure the EMS considers applicable operations
- Communicate efforts to stakeholders to raise awareness and improve understanding
- Set aside routine time to implement the EMS
- Incorporate EMS tasks into regular operations
- Focus on continual improvement
- Look for DNR and peer support for help

Developing a schedule of tasks is a helpful tool for ensuring the EMS is implemented well. Refer to **SCHEDULE SUMMARY** for listing typical EMS activities for participants that occur throughout the fiscal year. EMS tasks, such as tasks identified on objective and target action plans, may occur on a relatively frequent basis, while other tasks are conducted annually. Participants have flexibility in developing their own schedule of tasks, except for the deadline to submit an Annual Report to DNR which is written into Iowa Administrative Code.

Chapter 12

SCHEDULE SUMMARY

To assist in identifying the typical annual tasks, activities and opportunities for EMS participants, this section provides a summary by tier. The requirement to submit an EMS Annual Report by September 1st each year is set in Iowa Code 567-111 and must be strictly adhered to in order to remain in the program. The schedule for training and grants has been established by DNR with input from EMS participants.

IMPLEMENTATION TASKS BY TIER

TIER 1
Designate an EMR and Core Team and assign roles and responsibilities
Develop/adopt policies, procedures and other required records (see **DOCUMENTATION**)
Develop and begin to implement Objectives and Targets and Action Plans
Plan for and undergo an internal audit every fiscal year
Host and undergo an external audit by DNR every fiscal year
Prepare and submit an Annual Report to DNR by September 1st
Participate in monthly Tier 1 trainings and DNR training opportunities for all participants

TIER 2
Meet regularly as an EMS Core Team
Review policies, procedures and other records (see **DOCUMENTATION**) and update as needed
Work towards objectives and targets in each of the six program components, monitoring and measuring progress
Plan for and undergo an internal audit every fiscal year
Host and undergo an external audit by DNR every fiscal year
Review system with management and make modifications as needed
Prepare and submit Annual Report to DNR by September 1st

OPPORTUNITIES APPLICABLE TO BOTH TIERS

	OPPORTUNITY	SCHEDULE/DEADLINE
DNR TRAINING	Solid Waste EMS Summer Workshop	Summer
	Solid Waste EMS Conference	Fall
	Internal EMS Auditor Training	Winter (biennial)
	Other periodic trainings	To be determined
	Individual EMS technical assistance	On-demand
DNR GRANTS	Submit Grant Pre-proposal to DNR (Round 1)	September 15
	Submit Grant Application to DNR (Round 1)	November 1
	Submit Grant Pre-proposal to DNR (Round 2)	February 15
	Submit Grant Application to DNR (Round 2)	April 1

RESOURCE SUMMARY

The following resources are available on the Iowa DNR EMS Participants webpage (https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Solid-Waste-EMS/EMS-Participants):

- Training Presentations
- Examples of Procedures
- Activities and Impacts Template
- Objectives and Targets Guide
- Objectives and Targets Template
- Roles and Responsibilities Template
- Meeting Minutes Template
- EMS Awareness Graphics Package
- Audit Guide
- Internal Audit Plan Summary Form
- Audit Checklist
- Root Cause Analysis Guidesheet
- Corrective/Preventive Action Request Form
- EMS Annual Report Form
- List of EMS Procedures and Records

The following are available on the Iowa DNR Solid Waste Policy Rules webpage (https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Solid-Waste/Solid-Waste-Policy-Rules):

- Iowa Code 455J
- Iowa Administrative Rules Chapter 567-111