

ENVIRONMENTAL MANAGEMENT SYSTEM PILOT PROGRAM

Iowa Department of Natural Resources

FINAL REPORT
October 2010



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Executive Summary

In order to continue to make advancements in solid waste management, the Iowa legislature passed House File 2570 in 2008 as an alternative approach to the traditional focus on waste diversion. The legislation establishes a program and process that allows solid waste planning areas or agencies to be designated as environmental management systems (EMS) by demonstrating compliance with a set of solid waste reduction and beneficial environmental activities with a commitment to continuous improvement. Each solid waste agency must develop a customized EMS to design and implement local environmental programs related to solid waste management.

In order to facilitate the implementation of the Legislation, the Solid Waste Alternatives Program Advisory Council (Council) was established. The Council established a framework for the program and selected six solid waste agencies or planning districts in Iowa to participate in the EMS Pilot Program. From November 2009 to October 2010, the following six EMS pilots solid waste agencies worked toward the development and implementation of the EMS to conform to HF 2570:

- Cass County Landfill and Recycling Center
- Cedar Rapids/Linn County Solid Waste Agency
- Dubuque Metropolitan Area Solid Waste Agency
- Metro Waste Authority
- Rathbun Area Solid Waste Commission
- Waste Commission of Scott County

The requirements, implementation methods, and accomplishments of the EMS Pilot Program are provided within this Final Report, including supporting example EMS documents and case studies. Within the first year of the pilot program, a great deal of progress has been made in the following six environmental areas: Yard Waste Management, Hazardous Household Waste Collection, Wa-

ter Quality Improvement, Greenhouse Gas Reduction, Recycling Services, and Environmental Education.

The pathway for Iowa solid waste agencies to develop and implement an EMS has been laid by the efforts of these six EMS pilots solid waste agencies. Each element of the EMS now has documentation on the benefits, challenges and lessons learned through the Pilots' experience. The wealth of resources and documents compiled throughout the Pilot Program will ease the burden for future EMS agencies. The Iowa Department of Natural Resources will use these results to generate the final rules regarding EMS and then allow additional solid waste agencies across Iowa to apply and enroll for EMS designation.

“
After 25 years in the landfill business it was difficult to change my mind set. But now that I understand EMS, I feel it is the best change we can make for the future.

- Chuck Goddard,
Dubuque
Metropolitan
Area Solid Waste
Agency”

I. Introduction to the EMS Program

The General Assembly of the State of Iowa made a commitment in the 2008 legislative session to “encourage responsible management and solid waste disposal and to enhance efforts to promote environmental stewardship (House File (HF) 2570, 2008).” The implementation of the resulting legislation, HF 2570 (2008), to change the “focus of solid waste disposal projects from disposal management to environmental resource management” by designating solid waste planning areas as environmental management systems (EMSs), is the charge of the Iowa Department of Natural Resources (DNR).

The EMS program intent includes implementing a process for solid waste agencies to demonstrate regulatory compliance while identifying and engaging in activities to reduce solid waste, enhance environmental benefits, promote sustainable resource use, increase operational and management efficiency and effectiveness, decrease risk and liability and commit to continuous improvement.

A provision in HF 2570 created a 9-member Solid Waste Alternatives Program Advisory Council (Council), appointed by the director of the DNR, to facilitate implementation of

The Six Environmental Areas of Focus

1. Yard Waste Management
2. Hazardous Household Waste Management
3. Water Quality Improvement
4. Greenhouse Gas Reduction
5. Recycling Services
6. Environmental Education

the EMS program and to guide solid waste planning areas through the EMS process.

The EMS program development is occurring in a phased approach. The Council started the EMS process by writing and adopting the 10 elements of EMS (EMS Elements). The Council then selected six solid waste agencies to participate in a pilot program. The goal of the pilot program is to set up the EMS development process and generate resources to be used as a reference for future EMS program participants. As a result of the pilot program, document creation and clarification of the EMS Elements will provide additional resources to streamline the process when the full program is phased

in over time. As a way to facilitate the program initiation and development, the Council has selected an outside firm, Gresham, Smith and Partners (GS&P), to provide technical EMS assistance and guidance to both Council and the EMS pilots solid waste agencies. An overview and evaluation of the DNR EMS pilot program is provided in detail in this final report.

“EMS is about making environmental stewardship second nature. It is everyone’s job here.”

- Brian Seals,
Waste
Commission of
Scott County

EMS Pilots Solid
Waste Agency
Locations





ronmental impacts and associated regulatory compliance risks. Incorporating an EMS provides a structured approach to reduce operational costs, reduce process inefficiencies, decrease risks and increase stewardship. Less tangible benefits include improved worker morale and positive public perception resulting from being a “good corporate citizen.”

Figure 1.
The General Steps of an EMS: Plan, Do, Check, Act.

III. Council Participation

Monthly Council meetings were held during the pilot program to

II. Introduction to EMS

The processes and procedures an organization uses to operate and conduct business are referred to as a management system. There are different types of systems an organization may use. An EMS, in particular, is a set of processes and procedures developed by an organization to proactively manage its environmental impacts. Following Stewart and Deming’s well-known Quality Management approach, an EMS is based on the continual improvement cycle of “plan, do, check, and act.” The EMS is incorporated into the existing management system in a way that includes consideration of environmental performance and a structured methodology to lead to continual improvement. The EMS integrates the awareness and consideration of the environment into everyday business operations, resulting in environmental stewardship becoming part of the daily responsibility for employees across the entire organization.

Many organizations use an EMS to not only identify and evaluate environmental legal requirements, but to reduce overall envi-

facilitate the EMS process. This included, but was not limited to the selection of the six pilot solid waste agencies, ongoing evaluation of the EMS program development and associated progress, determination of the program structure, and funding recommendations. Progress reports of pilot activities and program status were provided to Council monthly by GS&P. The Council meetings were open to input and questions from the pilots as well. Suggestions and input received by Council were incorporated as the program progressed.

Council also recommended funding for the EMS pilot program and related tools needed to implement the program. Funding was allocated by the Council to the pilot solid waste agencies in two rounds. The funding provided seed money for each pilot solid waste agency to make early progress on objectives and targets. Additionally, funding was provided by Council to purchase an EMS software tracking tool and to engage a consultant to develop and support a greenhouse gas emissions calculator customized for Iowa solid waste agencies.

IV. The Pilot Solid Waste Agencies

As part of the initial phase of the EMS implementation process required under HF 2570 (2008), a total of six solid waste organizations were selected to participate in the EMS pilot program. The pilot program participants were identified through a competitive application and selection process facilitated by the Council. The selected organizations are diverse in size, geographic location, operational practices and management style. Table 1 lists the pilot program participants.

V. EMS Pilot Program Implementation

The Council's primary program goal was for each pilot to develop an EMS that met legislative goals while also serving the local needs of each of the solid waste agencies. Furthermore, Council requested a well-documented pilot program to generate EMS examples that will streamline the EMS implementation process for future participants. To this end, a multi-faceted program implementation approach including workshops, monthly conference calls, site visits, council

meeting updates, project website development and phased grant funding allocation to facilitate program development was performed. A description of the program implementation activities are provided below.

A. Pilot Training Workshops

Pilots participated in a two-day kick-off meeting followed by four one-day quarterly workshops for EMS training. The EMS elements were presented in succession in an interactive workshop setting. These focused workshops provided an open forum for pilots to interact, share ideas and lessons learned, ask questions and engage in the benefits of peer-to-peer learning with the guidance and EMS expertise of the GS&P team.

B. Conference Calls

GS&P facilitated conference calls were held monthly with each pilot solid waste agency to provide one-on-one support and feedback as the program progressed. Council member liaisons were invited to participate in the calls and they participated at their convenience.

The pilot-focused calls were generally well received and offered real-time information on the status of the program that GS&P communicated to Council in monthly progress

Table 1.
Pilot Solid Waste
Agencies

Pilot Solid Waste Agencies	Location in Iowa	Service Area Population	Number of Staff	
			Full-time	Part-time
Cass County Landfill and Recycling Center	Atlantic	13,840	5	1
Cedar Rapids/Linn County Solid Waste Agency	Cedar Rapids	208,574	32	0
Dubuque Metropolitan Area Solid Waste Agency	Dubuque	110,025	12	2
Metro Waste Authority	Des Moines	475,401	60	6
Rathbun Area Solid Waste Commission	Centerville	13,859	5	3
Waste Commission of Scott County	Davenport	164,690	26	2

reports. A summary of “lessons learned” compiled as part of the conference call process, is included in Section VII to assist future EMS participants.

C. Site Visits

A site visit to each pilot solid waste facility was conducted during the course of the project by GS&P to assist with EMS development. The initial site visits occurred in January and February 2010 and focused on assisting each solid waste agency with identifying environmental impacts, determination of significant impacts and training staff. The second site visits were conducted in August and September 2010 and primarily focused on training and providing assistance with the internal EMS assessment requirements.

The site visits provided hands-on support that was cited as being useful by the participating facilities. The first-hand experience and interaction with the staff of each facility allowed GS&P to provide customized feedback based on each pilot’s individual needs and situation while supporting the progress of the EMS program as a whole.

D. Project Website

A general project website was developed and maintained for the Council and pilot solid waste agencies to provide a repository to access resources, including example documents and project information, as well as a common forum to communicate with each other. The posted information was accessible to both the Council and the pilot solid waste agencies which allowed the Council to visually monitor the status of the pilot program while also facilitating peer-to-peer learning between the pilots as they each worked through each element. In addition to the general project website, each pilot had their own webpage where EMS documents were uploaded for personal record-keeping.

In support of the document creation and collection goal of the pilot program, the resources maintained on both the project and individual solid waste agency websites have

been transferred to DNR upon completion of the program.

VI. EMS Grant Funding

The first round of funding was called a “Quick Start Grant” of up to \$25,000. Quick Start grants were used as seed money to provide immediate budgetary resources to initiate the EMS development at each pilot solid waste agency. Examples of Quick Start grant projects were:

- Acquire 24-Hour OSHA HAZMAT training for Staff to expand collection of Household Hazardous Materials.
- Upgrade and expand website to increase the Pilot agency’s outreach and education of the public.
- Acquire additional public recycling collection bins to increase recycling services.
- Conduct a waste characterization study to determine areas where waste management improvements are needed.
- Sponsor field trips for the local elementary school to teach environmental benefits of proper waste management.
- Conduct an energy audit and awareness training for Pilot agency’s facilities and staff.

The second round of funding was for grants up to \$50,000. These grants were used to fund programs which would accomplish objectives and targets, achieving environmental improvements in the six plan component areas. Examples of the EMS Grants (Second Round) were:

- Acquire a wood chipper to be loaned to local community partners to assist with proper yard waste management.
- Expand shingle recycling program to increase diversion of construction and demolition debris from landfills.

“EMS is about making it easier for people to make good environmental decisions.

- Matt Klein,
Board Member,
Cass County
Environmental
Control Agency”

“Since the point of an EMS is continuous improvement, your EMS doesn’t have to be perfect the first year. You can always improve upon it in the future.

- Erin Robinson
Vorac,
Waste
Commission of
Scott County”

- Increase compact fluorescent bulb collection points to expand proper recycling.
- Expand recycling at community events by adding 40 additional event recycling containers.
- Install demonstrations of stormwater best management practices with educational signage to improve water quality and educate the public.
- Conduct energy upgrades as recommended by energy audits to reduce greenhouse gas emissions.

VII. EMS Development Process

The six solid waste agencies participating in the pilot program completed a series of steps to develop their facility-specific EMS. The EMS Elements as published by the Council were used as the framework.

Each step is described in detail below and integrates the reason for the activity, the benefits, the approach and results of the solid waste agency pilots completing the activity and the lessons learned from the process. Case studies of the experiences of the pilot solid waste agencies are provided to illustrate how the EMS elements were implemented (Appendix A). Relevant example materials and templates are referenced for each element and are included in Appendix B.

Table 2.
EMS Timeline

	2009		2010											
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Pilot Kickoff Meeting	█													
Environmental Policy		█												
EMR and EMS Core Team		█												
EMS Fenceline		█												
GAP Analysis		█												
First Quarterly Meeting			█											
Pilot Site Visits				█										
Objectives and Targets				█	█									
Environmental Impacts				█	█									
Second Quarterly Meeting						█								
Action Plan						█								
Identify Key Resources						█								
Identify Legal & Other Requirements							█							
Third Quarterly Meeting								█						
Monitoring and Measurement									█					
Communication										█				
Pilot Site Visits											█			
Assessment												█		
Reevaluation and Modification													█	
Final Quarterly Meeting														█
Annual Report														█

Elements of the EMS, as Adopted by Council

There are 3 main overarching elements.

- 1. Environmental Policy Statement:** Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets, and its commitment to continual improvement through the EMS.
- 2. Environmental Impacts:** The organization identifies and evaluates the actual or potential impacts to the environment, whether adverse or beneficial, from its activities, services and facilities. During the evaluation process, significant impacts to the environment are determined.
- 3. Legal and other requirements:** The organization must identify the legal requirements for its operations and facilities, including relevant environmental laws, regulations and permits, and worker health and safety regulations, and have a process for tracking any changes in these requirements.

The following 7 elements would be applied to each of the 6 plan components (Yard Waste Management, Hazardous Household Waste Collection, Water Quality Improvement, Greenhouse Gas Reduction, Recycling Services, Environmental Education):

- 4. Objectives and Targets:** The organization establishes objectives relevant to its policy, environmental issues and impacts previously identified, the views of interested parties, and other factors. Targets necessary for achieving the stated objectives are also established. A target is much more detailed than its objective and must be quantifiable.
- 5. Action Plan:** Actions necessary to achieve the objectives and targets. The plan includes identifying the individuals and/or organizations responsible for carrying out specific tasks, timelines for completion of each step in the plan, and a schedule for periodically reviewing and updating, as conditions dictate, the objectives and targets.

- 6. Identify key resources and additional needs:** As part of reviewing the draft of the action plan, conduct an inventory of key resources needed to carry out and complete the action plan. Resources may include fiscal matters, specific skills, facilities, partners, and additional needs. Upon completion of the inventory the action plan may need to be adjusted accordingly.
- 7. Communication/Training/Awareness:** Establish processes for internal and external communication. External communication will include reaching out to those groups and organizations that have been identified as having an interest, stake, or role in the organization's ongoing EMS program. There must also be procedures for receiving and responding to relevant communication from external interested parties. Internal communication is directed to individuals, organizations and entities that have a role or responsibility within the action plan. Internal communication includes a process to ensure that all responsible parties are familiar with the EMS and have the training necessary to capably execute their roles.
- 8. Monitoring and Measurement:** A documented process for monitoring key activities and measuring performance related to the specific environmental objective and target.
- 9. Assessment:** The organization must have documented procedures for assessing the function of each component and its effectiveness of and conformance with the EMS plan. Assessment is the process of drawing conclusions from the performance measurements.
- 10. Reevaluation and modification:** The reevaluation and modification element is an activity that allows an organization to improve and strengthen the EMS on an ongoing basis. This element considers areas where the EMS has met, exceeded, or failed to meet expectations. Identify root causes of those outcomes, and develop additional goals and activities appropriate to each. It's an opportunity to realize the organization's commitment to continuous improvement and should not be looked upon negatively.

Figure 2.
Elements of
the EMS, as
adopted by
Council

A. Preparing for the EMS

Several preliminary steps were used to assist with the development of the facility-specific EMS but are not defined in the “Elements of Iowa EMS.” These preliminary steps were used to provide a foundation for developing each solid waste agency’s EMS.

1. Gap Analysis

A gap analysis is an important first step when developing an EMS. The purpose of the gap analysis is to review and identify elements of the EMS that are already in place and functioning for the organization. The gap analysis also identifies elements of the EMS that are in place but not functioning as desired, and/or elements that are partially in place or do not currently exist. Conducting a thorough gap analysis allows the solid waste agency to prioritize and focus on those elements of the EMS that need the most attention to get the system in place and providing benefit to the organization.



Some Pilot Solid Waste Agencies added shingle recycling as a way to increase recycling services and divert construction and demolition waste from the landfill.

What are the benefits of conducting a gap analysis?

There are benefits to conducting a gap analysis at the outset of EMS development. First, the results of the gap analysis usually identify a number of processes already in place that will be included in the EMS. Realizing that the EMS will not be developed “from scratch” often provides comfort to involved staff members. Most organizations who implement an EMS have 50 to 75% of the system in place already. Second, education of what processes will be included

in the resulting EMS by inventorying what exists in the organization is a benefit. In the process of collecting the information for the gap analysis, there is an introduction to EMS processes and terms.

How did the pilot solid waste agencies conduct a gap analysis?

A gap analysis worksheet, in the form of questions, was developed and used by the pilot solid waste agencies (Appendix B). Completion of the gap analysis worksheet was done by the Environmental Management Representatives (EMRs) and/or EMS Core Team during a series of meetings at the beginning of the pilot program. The results of the gap analysis were reviewed during the monthly conference calls as well as at the second quarterly meetings.

What was the response of the pilot solid waste agencies to the gap analysis process?

Generally, the pilot solid waste agencies found that there were common EMS elements at least partially in place at the outset of the program, including Legal and Other Requirements and Training, Awareness, and Competency. However, other EMS elements such as Environmental Impacts and Assessment were generally not in place at the beginning of the program.

Lessons Learned/Best Practices

- All of the pilot solid waste agencies found the gap analysis to be a useful exercise to start the process of understanding the EMS and collecting information on existing programs at their facilities.
- The pilot solid waste agencies found the new EMS terminology to be an initial barrier in conducting the gap analysis.
- As part of the EMS gap analysis process, the pilot solid waste agencies found existing documents and policies that they could use to build on for their EMS, including:

- Existing vision statements that were used as a basis for the environmental policy statement.
- Comprehensive Plans that were referenced when developing objectives and targets and action plans.
- Emergency Response and Remedial Action Plan (ERRAP) and Operations Plan were used as a starting point to assist in the development of EMS documents, such as the roles and responsibilities matrix or EMS procedures.

2. Fenceline

The EMS fenceline is a delineation of the scope of the EMS or the area or operation around which the EMS is developed. The fenceline statement could be an address for the facility or a map of the geographical boundary of the EMS or even the specific departments that will be participating, if relevant. The purpose of defining the fenceline is to identify the limits of where the EMS efforts should be applied. The fenceline can be adjusted as necessary to fit the needs of the organization's EMS.

What are the benefits of delineating a fenceline?

Solid waste agencies typically have collaborations with other entities which add complexity in determining the extent of the agencies' control or influence. An understanding of the extent of operational control versus the operational influence through a delineated fenceline is essential for developing an effective and efficient EMS.

How did the pilot solid waste agencies delineate their fenceline?

Most of the pilot solid waste agencies started to develop their EMS fenceline by identifying their facilities by address and/or physical boundaries. As the pilot solid waste agencies started to discuss the interaction of the facility with external parties, the fenceline discussion became increasingly complicated. The pilot solid waste agencies had to determine whether external parties such as con-

tracted services, interaction with other local governments, and programs and services conducted offsite were to be included within their fenceline.

What was the response of the pilot solid waste agencies to the fenceline delineation process?

Most of the pilot solid waste agencies had a fenceline that described the organization, a listing of the address of each facility included in the EMS, a description of the activities conducted at each of the facility(ies), and a description of the programs and services offered by that facility, whether onsite or off-site. For example, Cedar Rapids focused their EMS solely on the internal operations of the facility. In a different approach, Dubuque, due to its organizational structure, had a more complicated fenceline due to unique organizational structure.



Recycling Baler:
Recyclable materials are baled before being sent off-site for recycling.

Lessons Learned/Best Practices

- An organization should consider areas where they have operational control when delineating a fenceline. Sometimes the organization has limited control over an area but is able to positively influence the environmental impact, such as when collaborating with another entity.
- The initial draft of the EMS fenceline should be a simple statement of the expected scope of the EMS. As the organization proceeds with EMS development, the EMS fenceline can be

adjusted to document any inclusions or exclusions that arise.

- Many of the organizations provide environmental services and programs in collaboration with other entities, making it difficult to draw a boundary for the EMS. This can create complexity in determining what to include or exclude in the EMS fenceline.
- Many organizations have a tendency to initially be overly concerned about the implications of the fenceline. Developing a fenceline does not need to take too much time as it can be modified as the EMS develops, if needed.
- All of the pilots indicated that while the fenceline discussion was difficult, it was an extremely valuable exercise when implementing many of the EMS elements such as setting objectives and targets.

provides consistency for the overall program implementation.

How did the pilot solid waste agencies identify their EMS Core Team and EMR?

The six pilot solid waste agencies took different approaches to select and designate an EMR. The smaller pilot solid waste agencies designated the Executive Director as the EMR, while the larger pilot solid waste agencies either designated the education/outreach person as the EMR or a staff member with specific environmental knowledge was selected as the EMR. The EMR for each pilot solid waste agency was actively engaged in the EMS development process and attended every training session, participated on each of the monthly calls, and either lead or substantially coordinated the EMS effort for their own organization.

In addition, each pilot solid waste agency selected an EMS Core Team to assist the EMR with EMS development and implementation. EMS Core Team members were selected differently, depending on the solid waste agency. For instance, some of the pilot solid waste agencies selected senior staff as the EMS Core Team members, while others chose to have more of a cross-section of participants. One pilot solid waste agency chose to have Board members serve on the EMS Core Team.

What was the response of the pilot solid waste agencies to the EMS Core Team and EMR selection process?

Most of the pilots used the EMS Core Team meetings as the designated time to develop the EMS. Additional EMS work was either conducted before and after the EMS Core Team meetings by the EMR or additional meetings were held to complete necessary tasks. The EMS Core Teams of each of the pilot solid waste agencies met at least once per month.

3. Environmental Management Representative and EMS Core Team

Developing and implementing an effective EMS requires staff time and dedication. Most organizations assign one person to be responsible for the overall development and implementation of the EMS, commonly referred to as the Environmental Management Representative (EMR). To support the EMR, an EMS Core Team is identified to ensure the EMS meets operational needs, and to disseminate responsibilities. The EMS Core Team provides overall support by developing and reviewing EMS documents for applicability and adequacy while bringing operational knowledge to the EMR. In most organizations, the EMR and the Core Team meet regularly to develop and implement the EMS.

What are the benefits of identifying an EMS Core Team and the EMR?

Identifying an EMS Core Team and EMR at the outset of the EMS development provides a leadership group to create and work through the details of the EMS process and

Lessons Learned/Best Practices

- Including management representatives on the Core Team helped to

“EMS has pushed our organization to undertake innovative environmental projects. We are seeing tangible results and real improvements from our EMS projects.”

- Marie DeVries,
Cedar Rapids/
Linn County Solid
Waste Agency

facilitate the development and implementation of the EMS.

- Involving a facilitator to assist with the initial EMS Core Team meeting, as one pilot solid waste agency selected to do, provided a methodology for future meeting structure and a means to achieve consensus at the project outset.
- For smaller organizations with limited staff, the EMR may take on the majority of Core Team responsibilities and occasionally rely on assigning EMS tasks to other staff.
- In the initial stage of EMS development, identifying who should be part of the EMS Core Team may not be immediately clear and working through a selection process may take time.
- The time commitment and responsibility of the EMS Core Team or EMR was sometimes cited as a burden. Working through the EMS development steps can be involved and the amount of personal responsibilities a staff member may have may vary during the development process.
- Frequent and effective communication between the EMR and EMS Core Team is necessary for each role to function well.
- Increased communication and coordination within each pilot solid waste agency as a whole was cited as a result of the EMS Core Team meetings.
- A diverse group of EMS Core Team members reflecting a cross-section of the organization can and did provide different perspectives and information that increased the effectiveness of the EMS.

B. The Ten Elements of HF 2570 EMS

1. Environmental Policy Statement

An organization's environmental policy is a statement by management of the organization's overall environmental commitments.

The environmental policy should include certain minimum commitments including a commitment to environmental compliance as well as to continually improve the organization's environmental impacts. The statement should reflect the size and scope of the organization's operations and should be written in a format that serves to inform staff of management's commitment and expectations, but also be used as a statement to the public.

What are the benefits of writing an environmental policy statement?

An environmental policy statement clearly defines management's environment commitment and associated areas of interest. Having the environmental policy statement written and posted for both internal and external stakeholders, demonstrates the commitment of the organization and provides education on the EMS to those that may be employed or work with the organization in some capacity.

How did the pilot solid waste agencies approach writing their environmental policy statements?

The pilots were provided with example environmental policy statements from other solid waste agencies and local governments, primarily from other states. A wide range of example policy statements were provided to facilitate discussion and to assist the pilot solid waste agencies to determine the most appropriate statement for their organization. Many of the pilot solid waste agencies selected to craft a policy statement from scratch and only used the examples provided for reference. Other pilot solid waste agencies selected to use existing environmental policies or management statements for their EMS.

What was the response of the pilot solid waste agencies environmental policy statement writing process?

The EMS Core Team of most of the pilot solid waste agencies drafted the environmental policy statement and provided it to their

“Our small organization has proven it is possible for any size solid waste agency to accomplish an EMS.”

- Wendy Wittrock,
Cass County
Landfill and
Recycling Center

Board or senior management to review and ultimately, approve. All of the pilot solid waste agencies subsequently used the environmental policy statement to educate staff on the EMS while some also used the environmental policy statement for public education purposes.

Lessons Learned/Best Practices

- The environmental policy statement should outline concepts required in HF 2570, including a commitment to continual improvement and an outline of a framework for action.
- When developing an environmental policy statement, use and reference of existing environmental policy statements from similar organizations can generate ideas and focus the development process.
- The development of the environmental policy statement is purely organization-specific. Some of the pilot solid waste agencies included the six plan components stated in HF 2570 in their environmental policy statements. Others chose not to include them in case they changed over time.
- Due to the unique nature of an environmental policy statement, some organizations have difficulty writing a clear and concise policy. Example statements were provided as a reference for pilots to help them develop organization-specific environmental policy statements. Also, building on existing policies and documents will assist in the statement development process.
- The endorsement of management of the environmental policy statement demonstrates top level support for the EMS which aids in EMS acceptance throughout the organization.
- The use of the environmental policy statement by the organization can provide additional benefits including communication of environmental commitments to internal and external stakeholders. For example, several pilot solid waste agencies developed acronyms associated with their environmental policy statement, which enhanced the ability to communicate it to staff.



2. Environmental Impacts

After an organization has written an Environmental Policy statement, the next step is to identify its environmental impacts. Environmental impacts are changes to the environment that occur as a result of the activities performed within the EMS fence line. Environmental impacts can be both positive and negative. For example, a negative environmental impact may be degradation of air quality that occurs as a result of the operation of diesel-fueled equipment. Conversely, a positive environmental impact may include recycling from the removal of materials from the waste stream by reusing discarded building materials to make bird feeders.

Once the organization has identified the environmental impacts, they are prioritized by the most important to the least important.

Many Pilot Locations increased collection of household hazardous materials through implementing the EMS.

The highest ranking impacts are termed “significant environmental impacts.”

Most organizations find the process of identifying environmental impacts and significant environmental impacts to be the most confusing and time consuming part of the EMS. This is primarily due to the terminology and process of establishing a methodology that works for the organization to identify the environmental impacts.

What are the benefits of identifying the environmental impacts?

Identifying and understanding the operations in place that are positively or negatively changing the environment provides the information that will be used to assist the EMS Core Team and EMR with determining what operations will be the focus, at least initially, in the EMS. Having a clear idea of all of the environmental impacts helps an organization to identify their areas of risk upfront in the EMS development process and focus staff efforts and funding accordingly.

How did the pilot solid waste agencies identify their environmental impacts?

When starting the process of identifying environmental impacts, the pilot solid waste agencies were provided with a list of examples of environmental impacts used by other solid waste agencies, including Metro Waste Authority (MWA), several agencies in California, and the City of Dallas. Through a focused training session provided during a quarterly meeting, the pilot solid waste agencies were shown a number of different ways to develop a list of environmental impacts by reviewing activities and/or operations and evaluating the associated impacts. There are many methods for inventorying activities and/or operations and associated impacts and they include:

- Listing of activities within the EMS fence line by the EMS Core Team;
- Evaluating job descriptions;
- Reviewing of the annual budget;

- Reviewing the inputs and outputs from each facility; and
- Interviewing field staff.

In addition to the training provided during a quarterly meeting, most of the pilot solid waste agencies used a site visit from GS&P to assist with the identification of environmental impacts and the ranking process for identifying significant environmental impacts.

What was the response of the pilot solid waste agencies to the environmental impact identification process?

Many of the Pilots started the process of identifying environmental impacts by listing the activities that occurred at each facility. The list of activities was developed either by the EMS Core Team or by EMS Core Team members and their staff. The list of activities was then used by the EMR and/or the EMS Core Team to identify both the positive and negative environmental impacts. Several of the pilot solid waste agencies started with a very detailed list of environmental impacts, but then decided to scale back the number of impacts to reduce confusion.

Once the environmental impacts were listed, the EMR and/or the EMS Core Teams developed a ranking process to identify the significant environmental impacts. Many of the pilot solid waste agencies used the examples from other organizations to start this process, or used Scott County’s environmental impacts list as an example, as the first pilot solid waste agency in the program to benefit from having a site visit focused on identifying environmental impacts. In the environmental impact identification process, the pilot solid waste agencies made sure to include the six plan components listed in HF 2570 as significant environmental impacts.

Lessons Learned/Best Practices

- Assigning staff to assist with developing the activities and impacts list based off of their daily activities provides valuable input to the EMR and/or EMS Core Team while also serving

“EMS has expanded our knowledge of our environmental, legal, and other requirements.”

- Jennifer Frampton, Rathbun Area Solid Waste Commission

as EMS training and awareness for the organization's employees.

- Starting high level and then drilling down for additional detail when compiling the environmental impact list was identified as a more productive method by some of the pilot solid waste agencies.
- Multiple considerations, such as costs and community concerns, should be accounted for when developing the criteria for prioritizing environmental impacts. The criteria used for scoring an impact as a significant environmental impact was customized by each pilot solid waste agency, though a general template was followed (Appendix B). The template included a formula for scoring activities related to the six plan components to assist in conforming to HF 2570 and to provide initial guidance in the prioritization process.
- To assist with the analysis of environmental activities and impacts and to provide greater clarity, many of the

pilot solid waste agencies added the use of the ISO 14001 term "environmental aspects." Environmental aspects are the activities' interactions with the environment. Waste generation is an example of an aspect, and the resulting impact may be reduction in landfill space.

- Writing a procedure to document the organization's method for determining significant environmental impacts was performed and found to be helpful for reference in the future.
- The identification of an organization's activities and environmental impacts takes time and is often confusing, as many of the pilot solid waste agencies experienced. This is not unusual for entities implementing an EMS for the first time as there is new EMS terminology to become familiar with and evaluating environmental impacts from a new perspective takes adjustment.
- By evaluating the organization's interactions with the environment, pilot solid waste agencies discovered impacts that had been previously unknown and are now able to be tracked.
- The process of developing a list of significant environmental impacts helps the organization set priorities for making environmental improvements.
- The effort to determine and evaluate environmental impacts can be used as an EMS communication tool to expand EMS awareness.
- To limit confusion when using EMS development examples and pre-fabricated EMS metric tracking software, the solid waste agencies made the recommendation to use the term environmental aspects as well as environmental impacts for future EMS program implementation.



Increasing recycling is one of the goals of the HF 2570's EMS program.

3. Legal and Other Requirements

Solid waste management agencies manage numerous environmental legal requirements on a daily basis. Compliance with these legal requirements is the foundation of an effective EMS. As part of an EMS, identification and documentation of these environmental legal requirements is the first step. Legal requirements may include laws, regulations, permits, and other voluntary commitments by the organization. Additionally, under the Iowa EMS requirements, worker health and safety requirements also have to be identified.

After developing the list of legal and other requirements, the organization needs to establish a process for tracking changes these requirements and updating the Iowa EMS, as needed. Common methods used to track these requirements may include subscriptions to legal services, reviewing the Federal Register, and/or participating in organizations that specifically track legal and other requirement changes.

What are the benefits of identifying legal and other requirements?

Once the legal environmental requirements for the organization are identified, the risks associated with potential non-compliance with these requirements are known and can be mitigated through the EMS. As a solid waste agency, there are a number of applicable legal environmental requirements to account for and ensure compliance to be able to continue agency operations.

How did the pilot solid waste agencies identify their legal and other requirements?

All of the pilots were aware of their legal requirements, and some of the pilots had a concise list of these legal requirements in place at the outset of EMS development. One pilot solid waste agencies, MWA, had a software system that tracked legal requirements with an interactive calendar and notification system but all of the agencies had existing processes to keep track of changing regulations. To assist the pilots in meeting



this requirement, example lists were provided from solid waste management agencies across the United States as well as MWA's list. Some pilot solid waste agencies hired an environmental consultant to complete this task.

What was the response of the pilot solid waste agencies to the legal and other requirements identification process?

The pilot solid waste agencies had existing management programs in place to identify and track legal and other requirements which assisted in the development of this EMS element. Upon completion of this element, the pilot solid waste agencies prepared a written procedure to document the process of changing regulations and subsequent updates to the EMS.

Lessons Learned/Best Practices

- The identification of legal and other requirements for the pilot solid waste agencies will be similar for all solid waste agencies across Iowa and can be referenced in future EMS programs.
- Reviewing the organization's permits, especially the DNR Operating Permit, was helpful in determining the list of legal requirements.
- The pilots developed a written procedure to document the methods for identifying and updating the organization's legal and other requirements to be able to replicate the process in the future.

Recycling Container:
Many Pilot Locations placed new public collection/recycling containers in strategic locations to increase awareness of recycling services.

- Determining the appropriate level of detail to include in the list of legal and other requirements is not straightforward and was individually agreed upon for each pilot solid waste agency to suit their needs.
- The process of identifying and compiling the list of applicable legal and other requirements resulted in consolidating previously disparate regulatory information and serving as an educational training exercise of the legal requirements.
- Solid waste agencies also needed to consider other types of legal requirements, such as safety.

4. Objectives and Targets

In an EMS, the overall environmental goals of the agency are called objectives and targets and serve as the foundation for achieving environmental improvements through the EMS. Objectives can be long- or short-term, and must include a specific target that the agency is trying to achieve such as a due date or an overall environmental improvement. The objectives and targets should be achievable, measurable and lead to environmental improvements. Under HF 2570 (2008), objectives and targets must be set for the six plan components — Yard Waste Management, Hazardous Household Waste Collection, Water Quality Improvement, Greenhouse Gas Reduction, Recycling Services, and Environmental Education. An example objective and target would be to reduce greenhouse gases by 10% by December 31, 2017. Additionally, objectives and targets should be considered for significant impacts that are not included in HF 2570 (2008).

While setting objectives and targets for environmental improvements within the agency's operational control can be fairly straightforward, setting an objective and target for an area outside of the EMS fenceline requires the agency to potentially rely on another organization to achieve the agency's goals. Consideration of the EMS fenceline when developing objectives and targets is necessary

when planning ahead for the implementation of the rest of the EMS elements.

What are the benefits of identifying objectives and targets?

Setting the objectives and associated targets for each pilot solid agency provides a specific direction for environmental improvements. By setting the objectives and targets, internal stakeholders are made aware of the specific measurable goals that are associated with meeting the now already established environmental policy statement.

How did the pilot solid waste agencies identify their objectives and targets?

To begin the process of identifying objectives and targets, the pilot solid waste agencies were provided example objectives and targets from other solid waste management agencies as well as a template for documenting those that they came up with (Appendix B). The pilot solid waste agencies started with evaluating their existing environmental goals in the six plan components outlined in HF 2570 (2008). Building on the existing environmental programs and goals, the pilot solid waste agencies developed their own organization-specific list of objectives and targets.

What was the response of the pilot solid waste agencies to the objectives and targets identification process?

All of the pilot solid waste agencies had existing environmental goals and simply wrote them in an EMS format. However, several of the pilot solid waste agencies struggled with setting goals in the areas of yard waste management and greenhouse gas reduction. Yard waste management was difficult for several pilot solid waste agencies due to the presence of external entities operating programs related to yard waste management. One of the pilot solid waste agencies set an objective and target to address yard waste management on their own facility. Greenhouse gas reduction was difficult for several of the pilot solid waste agencies because they did not have a baseline greenhouse

“
Making environmental improvements through the EMS doesn't necessarily mean spending a lot of money.

- Rodger Kaster,
Rathbun Area
Solid Waste
Commission”

gas emission inventory from which to work. Lastly, one pilot solid waste agency set a goal to reduce energy use and provide staff training in order to address green house gases.

Lessons Learned/Best Practices

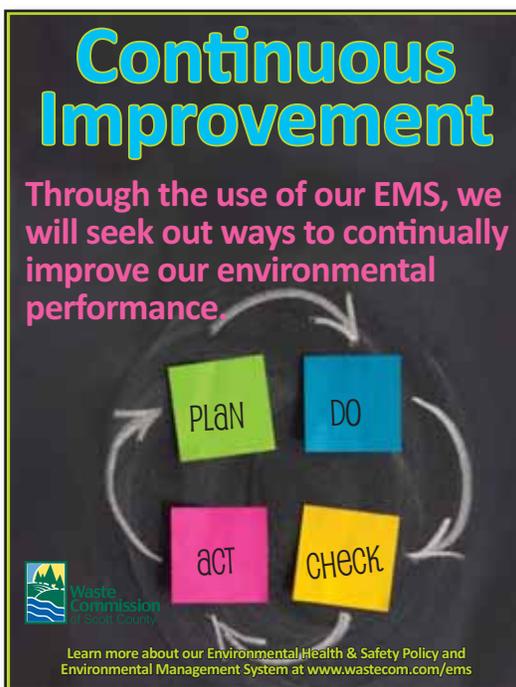
- Objectives and targets should be developed to encourage measurable environmental improvements. Progress should be made in all six plan component areas, documented by either accomplishing the objective or showing completed tasks toward that end. The level of effort may not be equal for each of the plan component areas every year. EMS organizations may choose to focus more on some components one year and other components the next year.
- Objectives and targets should be set for both short- and long-terms to account for what is realistic to accomplish initially while still working toward more involved and potentially resource intensive objectives longer term. Agencies should recognize that accomplishing objectives is critical to demonstrate continual improvement and there will be annual reporting on progress.
- Many times baseline data needs to be gathered before a meaningful objective and target can be identified. In the early stage of EMS development, acquiring the baseline data is an acceptable objective and target.
- Objectives and targets may have associated costs so the organization should consider setting objectives and targets prior to annual budgeting.
- Integrating fence line considerations into objective and target development is necessary to limit conflict and the potential to develop an objective without the means to reach the target. Many of the pilot solid waste agencies were challenged with developing objectives and targets within their fence line for the six plan compo-

nents, specifically in determining the extent of their influence on programs and services.

- Setting objectives and targets should be completed after significant environmental impacts are identified. For the pilot solid waste agencies, objectives and targets were set before significant environmental impacts were completed due to availability of grant funding. This caused confusion and additional staff time to reevaluate objectives and targets.
- Setting objectives and targets is an excellent tool for planning and measuring environmental progress.

5. Action Plan

After setting objectives and targets, action plans are developed. An action plan is the road map used to achieve an objective and target. An action plan can take many formats but at a minimum should outline the tasks that are necessary to accomplish the objectives and targets, responsibilities by job title or staff member name, deadlines for accomplishing each task and other useful information such as needed resources. It is recommended that action plans are



Posters such as this one can be used as a communication tool to raise EMS awareness.

“EMS is about making positive environmental changes, doing the right thing. We need to provide the public with information to make the best environmental decisions about their waste.”

- Nancy Otterbeck,
Dubuque
Metropolitan
Area Solid Waste
Agency

reviewed regularly to ensure the tasks are being completed on time and within budget. Therefore, an action plan may be more useful if it includes space to provide notes through time on the status of each task. If a task is not being completed as required, the EMR should review the action plan and adjust and update accordingly.

What are the benefits of creating an action plan?

An action plan strategically accounts for resource availability, including staff, financial, and materials, to meet established targets. By having an action plan, the success rate of achieving identified targets increases as resource use can be planned and scheduled as needed. The action plan provides a proactive approach to meet the objectives and targets set in the previous EMS element.

How did the pilot solid waste agencies create their action plan?

To begin the action plan development process, the pilot solid waste agencies were provided example action plans used by other solid waste management agencies as well as a template for developing and documenting action plans (Appendix B). The EMS Core Team of each pilot solid waste agency developed the action plans by using the template provided in training as a starting point and then adjusting it to meet their needs.

What was the response of the pilot solid waste agencies to the action plan development process?

Each pilot solid waste agency took a different approach to developing their action plans. Some pilot solid waste agencies were able to integrate the EMS action plan with existing work plans, while others developed the action plans using the GS&P-provided template. In assigning responsibilities in the action plan, several of the pilot solid waste agencies made assignments only to EMS Core Team members, while others spread the responsibilities throughout the organization. Lastly, when developing the action plans, the pilot solid waste agencies strategized and

coordinated with staff on the implementation of objectives and targets as part of the process. The result of this process development included a facilitated communication approach among staff and between multiple facilities.

Lessons Learned

- Action plans should identify methods for accomplishing the objectives and targets with interim tasks and deadlines.
- The action plans associated with longer term objectives and targets should have feasible milestones for each year to demonstrate annual progress.
- A single person should be identified to document progress on the action plans.
- Incorporating monitoring procedures into the action planning process, since metrics were developed for the action plan, allows the organization to prepare feasible methods for future data collection. This method accounts for advanced planning and is encouraged.
- Initially, the pilot solid waste agencies found it difficult to determine an effective and consistent method for updating the action plans. The solution was to include the action plans in the software tracking tool, Intelx, to streamline updating the action plans.
- Developing the action plans helped Pilots strategize and coordinate the implementation of objectives and targets. This facilitated communication among staff and between multiple facilities.

6. Identify Key Resources and Additional Needs

Identifying key resources and additional needs is a necessary step in developing effective action plans as action plans may require the commitment of a variety of resources. These resources may include, but

are not limited to budget, staff, staff skills, equipment, and resources of external organizations. The availability of these resources may affect the success of an action plan. For example, if staff is not available to accomplish a necessary step in the action plan, then the associated objective and target may not be achieved. Additionally, key resources such as a collaborating entity, grant funding or training, should also be assessed and included in the action plan, if applicable. Assessing resource needs before launching the action plan ensures the plan has been well-developed and adequately considered.

An additional component of key resources and additional needs includes identification of EMS roles and responsibilities by staff member. The EMS includes a variety of tasks that need to be completed in order for the EMS to be effective and provide benefit to the organization. These tasks need to be communicated to responsible staff.

What are the benefits of identifying key resources and additional needs?

The benefit of identifying key resources and additional needs is to make sure staff and funding is available for successful implementation of the EMS. If these resources are not available, the EMS can be updated accordingly.

How did the pilot solid waste agencies identify key resources and additional needs?

In order to complete the EMS roles and responsibilities and identify key resources, the pilot solid waste agencies were provided example key resource lists used by other solid waste agencies as well as a template table (Appendix B) to document and communicate the varying roles and responsibilities. All of the pilot solid waste agencies used the EMS Core Team to complete the key resources and responsibilities element.

What was the response of the pilot solid waste agencies to identifying key resources and additional needs?

The pilot solid waste agencies combined the identification of key resources and additional needs as part of their action planning process. In many cases, key resources had already been committed as part of existing environmental programs. The pilot solid waste agencies also used grant funding to complete tasks in their action plans, which was extremely valuable in jump starting progress on objectives and targets. Lastly, consensus among the pilot solid waste agencies indicated that the key resource and roles and responsibility table development process was beneficial in understanding and disseminating responsibilities for the EMS.



An EMS training workshop held at a Pilot Location.

Lessons Learned/Best Practices

- Many of the pilot solid waste agencies combined action planning with key resources and additional needs into one matrix.
- The seasonal nature of the solid waste agencies' work should be a consideration in scheduling future EMS activities. For example, the slower winter season should be utilized more for EMS development than the busy spring season, especially around Earth Day events. Annual budgeting schedules may also factor into the EMS development efforts.
- The size of the organization directly affects how long it takes to complete the key resource evaluation. For example, pilot solid waste agencies with a small staff found that devel-

“The EMS has helped open channels of communication from front line staff to management, which has been invaluable to our organization.

- Judi Mendenhall,
Metro Waste
Authority

Posters such as this one can be used as a communication tool to raise EMS awareness.

oping the roles and responsibilities table was relatively simple whereas the task was more in-depth for larger organizations.

7. Communication/ Training/Awareness

For an EMS to be effective, internal and external communication of EMS elements needs to occur. First, employees need to have understanding of the EMS and their associated role in its success. Additionally, a method to receive suggestions and inquiries from employees regarding the EMS greatly assists in continual improvement. Internal communication is intended to raise employees' level of EMS awareness and typically follows these steps:

- Identify audiences
- Identify tools and formats for each audience
- Identify process for receiving and responding to inquiries
- Launch communication

External communication of the EMS is also critical, especially for solid waste agencies. Success of an environmental program implemented by a solid waste agency may rely

significantly on external organizations and/or the public. External communication must account for outreach to stakeholders as well as the process for receiving and responding to inquiries from external parties.

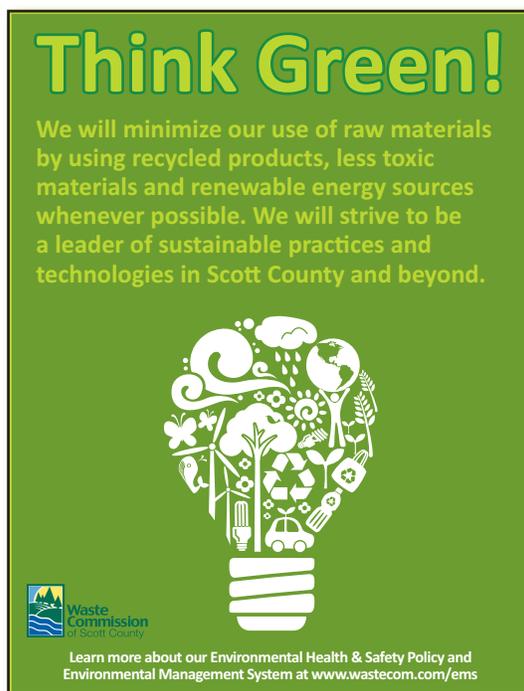
Communication methods can be in many forms to reach the appropriate audience:

- Email/Websites
- Tailgate Safety Meetings
- Flyers/Brochures
- Training
- Posters
- Performance Plans
- Award/Recognition Programs
- Contracts
- Council Briefings
- Press Releases

An important component of internal communication is employee training. Employee training is necessary to implement the EMS and improve the organization's environmental performance. The training program should include identification of training requirements by job title or staff name and should provide for retaining associated records.

What are the benefits of incorporating communication/training/awareness?

The EMS will not be as successful if the intent and processes are not communicated to the entire organization. Identifying a process to strategically address communication, training and awareness in a systematic method increases efficiency in message campaigns, promotes employee skill development and cross-training in staffing, decreases redundancy in processes and procedures and as an intangible by product, will increase employee morale as communication of an organization's processes will positively contribute to employee buy-in to the EMS program.



How did the pilot solid waste agencies incorporate communication/training/awareness?

All of the pilot solid waste agencies had an external communication process for their agency before the EMS program. The communication tools utilized included a variety of mechanisms such as press releases, websites, and training programs. The pilot solid waste agencies added EMS to their external communication program and several were recognized in local newspapers for their accomplishments.

For internal communication of the EMS, the pilots discussed options with the EMS Core Team. The pilot solid waste agencies implemented a variety of innovative methods to increase awareness of the EMS with staff. Several of the pilot solid waste agencies developed an EMS “acronym” to communicate internally about the EMS. One pilot solid waste agency hired a PR company to assist with the development of the acronym as well as associated print materials such as posters. Most of the pilot solid waste agencies used their environmental policy to communicate about the EMS and made posters for breakrooms. One pilot solid waste agency had staff complete an EMS survey and then held an EMS orientation meeting. While another held a staff dinner to talk about the EMS and associated environmental improvements.

For training programs, all of the pilot solid waste agencies had an existing environmental training program. However, most of the pilot solid waste agencies had not identified training requirements by job description and did not systematically track training completion by staff. In order to complete this task most of the pilot solid waste agencies utilized a training matrix template and documented their communication/training/awareness methods in a written procedure.

What was the response of the pilot solid waste agencies to incorporating communication/training/awareness?



Early in the EMS development process, most pilot solid waste agencies were hesitant to communicate about the EMS until it was more fully implemented. At times, the pilot solid waste agencies had challenges with identifying the best way to communicate internally but each agency found a method that resonated with staff and proved to be effective.

Lessons Learned/Best Practices

- One method for initiating internal communication about the EMS is to engage staff in the development of environmental impacts or action plans. The organization can receive

RESPECT T-shirt & IMPACT Poster:
Several Pilot Program Locations have developed acronyms and logos for their Environmental Policy which can be used to introduce the public to EMS.

valuable feedback from their staff this way. For example, one pilot solid waste agency provided cameras for staff to use to identify activities with environmental impacts.

- Developing a strategic internal communication plan about the EMS is helpful in creating a unified effort. Pilot solid waste agencies used a variety of methods including staff meetings, “toolbox talks,” on-site posters, t-shirts, logos, surveys, memos and websites.
- Following up on communications received both internally and externally is challenging but very important to maintain interest in the EMS.
- The documentation and record-keeping for environmental training for some pilot solid waste agencies was not functioning as designed prior to EMS implementation. The EMS gave the pilot solid waste agencies a framework for tracking training.

8. Monitoring and Measurement

Monitoring and measurement of environmental improvements is a critical component in measuring the success of the EMS. Each objective and target must have an associated metric, as well as other key activities in which environmental progress should be measured. These metrics can vary greatly, but should be identified and tracked through time to measure the progress being made by the agency. Metrics can include



Monitoring and measurement is conducted to assist with tracking progress on EMS objectives and targets.

number of training sessions provided, number of kWh reduced, tons of material recycled, and completion of a technology review, to name a few. Monitoring and measuring progress can also identify weaknesses in the EMS, especially when objectives and targets tracked over time are not producing the desired results.

To track overall environmental improvements over time, baseline data must first be established. The organization may review existing available data or gather new data prior to setting the related objective and target.

What are the benefits of conducting monitoring and measurement?

Monitoring and measurement data provides the agency with information to demonstrate that the EMS is working. Additionally, the data serves to motivate and provide information for decision makers to continue to support and provide resources for the EMS.

How did the pilot solid waste agencies conducting monitoring and measurement?

The pilot solid waste agencies identified metrics for each objective and target and in some cases, for each action plan item. Most of the pilot solid waste agencies included the metrics in a table that summarized the objectives and targets.

What was the response of the pilot solid waste agencies to incorporating monitoring and measurement?

All of the pilot solid waste agencies collected metric data for a variety of programs before the EMS program; however, it may not have been on a systematic basis or tracked through time. Additionally, most of the pilot solid waste agencies did not have baseline data available for greenhouse gas reductions.

Lessons Learned/Best Practices

- Choose the metrics which are simple, but provide a meaningful way to evaluate objectives and targets.

Metrics can take different forms, so be creative when determining how to measure progress.

- When possible, identify metrics for which the organization already collects data. Avoid choosing metrics with costly data collection and processing associated.
- Maintain records of the results which can be assessed and used for reevaluation and modification efforts.
- Track and evaluate data over time. Objectives and targets may require multiple years to accomplish.
- Monitoring and measurement is the way to demonstrate the organization's EMS accomplishments and environmental improvements. Results can be used to build momentum in EMS implementation. The organization can use the data to promote its achievements

9. Assessment

What is an assessment and why is it important?

The purpose of an EMS assessment is to proactively identify what is working in the EMS, as well as potential weaknesses. The first step in conducting an EMS assessment is to identify an assessor, preferably someone who has not had direct and close involvement in the development of an EMS. The assessor then works with the EMR and the EMS Core Team to develop an EMS assessment schedule to interview staff and review EMS documentation and records. Immediately following the completion of the assessment, the assessor and the EMR review the results and determine if there are any weaknesses in the EMS that need to be addressed. Equally important, the assessor should identify commendable practices that exceed the requirements of the EMS. EMS assessments should be conducted on an annual basis.

What are the benefits of conducting an assessment?

The benefit of an assessment is to identify the areas of the EMS that are working well and those that are weak to be able to focus resources on the areas that are most vulnerable and may cause the greatest risk to the organization.

How did the pilot solid waste agencies conduct an assessment?

Because an EMS assessment is fairly difficult the first time it is conducted, the pilot solid waste agencies scheduled their second site visit around the EMS assessment process. Additionally, the pilots were encouraged to identify their EMS assessor and bring them to the third quarterly training session. The monthly phone call prior to the EMS assessment was exclusively used to plan for and schedule the EMS assessment. The pilots were provided with an EMS assessment plan and an EMS assessment checklist to be used during the process.

All of the pilot solid waste agencies identified an EMS assessor that was not actively involved in the development of the EMS. The smaller pilots utilized an external party to conduct their assessment due to the limited number of staff. All of the assessments were scheduled to be conducted either over four hours (the smaller pilot solid waste agencies) or eight hours (larger pilot solid waste agencies). The assessment included EMS procedure and record review as well as interviews of the EMR, EMS Core Team, management, and selected staff. A closing meeting was held to review the results and determine any findings from the assessment. An assess-



Assessment:

One component of EMS assessment is to interview staff about their awareness and roles in the EMS.

Site visits were conducted to assist the pilot solid waste agencies with EMS development.

ment report was issued for all of the pilot solid waste agencies. The EMS assessments did not include two of the EMS elements: EMS assessment and Reevaluation and Modification. Additionally, a limited record review was conducted due to the time limitations.



What was the response of the pilot solid waste agencies to conducting an assessment?

Generally the pilot solid waste agencies responded positively to the internal assessment experience and expressed that the experience provided a new perspective for viewing the EMS. The results of the assessment indicated that all of the pilot solid waste agencies had successfully implemented an EMS. Staff were generally aware of the EMS and their associated environmental responsibilities. All of the pilot solid waste agencies had made progress on their objectives and targets, however most of the pilot solid waste agencies were still struggling with how to systematically update their action plans and monitoring and measurement data. Additionally, most of the pilot solid waste agencies did not have a separate list of significant impacts and had not included worker health and safety on their legal and other list. All of the pilot solid waste agencies had several commendable items identified during the EMS assessment.

Lessons Learned/Best Practices

- There is some confusion distinguishing between an internal EMS assessment and an external EMS assessment. An internal EMS assessment is

required under Element #9 of the Ten Elements of the Iowa EMS. The internal assessment is conducted by the organization and the results are used as part of the continual improvement process. An external assessment is conducted by an entity outside the organization and this will be required on a periodic basis as one method for DNR to assess the EMS participants.

- The internal EMS assessment should be designed to identify whether the EMS is providing value to the organization and where there are missing elements or components of the EMS.
- When choosing the assessor(s), attempt to select an assessor(s) who can serve in the role for multiple years if possible.
- Sometimes, organizations have difficulty identifying an assessor to conduct the internal EMS assessment. The assessor should not have direct responsibility in the development and administration of the EMS being assessed. Solid waste agencies with limited staff should consider either partnering with another similar-sized agency or looking to their engineering consultants to assist with the internal EMS assessments.
- The assessment helps to identify the elements of the EMS which are functioning well and those which need additional efforts, providing guidance for reevaluation and modification.

10. Reevaluation and Modification

Reevaluation and modification is an important part of the EMS continual improvement process and generally involves two separate phases. The first phase is follow up to the internal EMS assessment and the second phase is conducting a senior management review.

Internal EMS assessments will identify strengths and weaknesses in the EMS. EMS elements which are not meeting the requirements of the EMS or not providing value

to the organization need to be evaluated. The purpose of the evaluation is to identify the root cause of the weakness of the EMS, instead of a “find and fix” approach. By identifying the root cause, the EMR and the EMS Core Team can take appropriate steps to address the situation and ultimately prevent reoccurrence.

The second phase of reevaluation and modification is senior management review. The senior management review should be conducted on an annual basis, and should evaluate the EMS as a whole, and should specifically evaluate the progress on environmental performance, including:

- Review the policy for adequacy
- Review the list of significant impacts
- Discuss objectives, targets, and action plans to reduce significant impacts
- Discuss monitoring and measurement including metrics
- Discuss key resources and whether there are additional needs for the EMS
- Discuss communication methods and responses
- Discuss EMS assessment process and results

The results of the senior management review should be documented and the EMS should be updated accordingly.

What are the benefits of conducting reevaluation and modification?

Conducting a reevaluation and modification is beneficial to keep the EMS focused and to address EMS elements that are not providing value to the organization. The reevaluation and modification provides a systematic approach to review existing processes and make changes as necessary before it becomes a more significant problem. Additionally, the process provides an opportunity for management review and direction.

How did the pilot solid waste agencies conduct reevaluation and modification?

All of the pilot solid waste agencies reviewed the findings of the EMS assessment with the EMS Core Team. The root cause of each finding was identified, however since this is the first time through the EMS, the root cause for most of the findings was simply learning the EMS process.

Senior management review was conducted by the pilot solid waste agencies in two ways: in an EMS Core Team meeting when senior management was present or with the Board. Results of the senior management review were documented by the pilot solid waste agencies either in the Board meeting minutes or in a separate memo.

What was the response of the pilot solid waste agencies to conducting reevaluation and modification?

Some pilot solid waste agencies wrote one procedure for the reevaluation and modification element while others chose to write two procedures based on the available example materials. The two procedures were: (1) a Nonconformance and Corrective Action Procedure used for the first phase of following up to EMS assessments, and (2) a Management Review Procedure describing the second phase of an overall EMS performance evaluation and modification.

Lessons Learned/Best Practices

- Management review provides a format to keep management informed on the progress and direction of the EMS.
- Management review provides an opportunity to discuss environmental improvements and highlight the accomplishments of the EMS.
- Staff and resource needs are more easily explained and justified when management is regularly involved in the EMS.
- Management can provide direct feedback on environmental programs and help guide the direction on the future of the EMS.

“EMS has made me think about the potential environmental and health impacts of my job. My child has asthma and I am happy to know that our organization is making a difference in air quality by using less fuel. I am proud to be part of the improvements we are making for the whole community.”

George Loper,
Metro Waste
Authority

VIII. Accomplishments of the EMS Pilots Solid Waste Agencies

Since the Kick-off Meeting in November 2009, pilot solid waste agencies have developed and implemented an EMS customized to the needs of each solid waste agency. EMS implementation efforts have resulted in each pilot solid waste agency addressing new environmental improvement goals in the six plan component areas, which has facilitated meeting the legislative goals of HF 2570 (2008). A detailed annual report will be submitted by each pilot solid waste agency to document individual EMS progress. The following section provides highlights of the pilot solid waste agencies' program achievements in environmental improvements to date.

A. Yard Waste Management

- Implemented wood chipper sharing program with regional collaborators
- Developed pilot program to expand municipal composting
- Increased awareness and provided resources for backyard composting
- Established a Compost Task Force to improve municipal composting program

B. Hazardous Household Waste Collection

- Trained staff in 24-hour HAZWOPER, expanding HHW collection events



HHW Swap Shop:
One Pilot Location's effort to reduce household hazardous materials waste.

- Increased compact fluorescent light bulb (CFL) drop off locations
- Increased HHW participation and collection
- Conducted outreach efforts to expand CESQG participation

C. Water Quality Improvement

- Implemented on-site erosion control program using agency's own compost
- Started an illegal dumping surveillance partnership group
- Installed dual valve toilet flushing systems to conserve water
- Established a local river clean up program
- Installed on-site stormwater management BMPs, including a wetland
- Developed a stream bank stabilization program for local streams

D. Greenhouse Gas Reduction

- Conducted energy audits and provided energy conservation training for all staff
- Developed an energy management plan (in progress) to reduce GHG emissions
- Implemented a program to loan electricity use monitors (Kill-a-Watt) to the public
- Reduced fuel usage and GHG emissions by adapting collection methods
- Changed landscaping and land management practices to reduce the need for mowing
- Reduced the amount of waste oil generated

E. Recycling Services

- Installed new recycling containers at multi-residential facilities
- Conducted a study of deconstruction of flood houses, resulting in lessons learned to be applied to non-flood houses
- Conducted a glass recycling study

- Conducted a waste characterization study to better understand trends to best manage waste streams
- Increased the number of recycling drop off locations
- Developed a program to increase electronic waste recycling
- Implemented shingle recycling program

F. Environmental Education

- Created a new website with program and educational information
- Installed an observation deck at land-fill for use in school and public facility tours
- Improved educational facilities to host more programs
- Provided educational field trips for elementary school students

IX. Path Forward

The EMS Pilot Program is coming to a conclusion and Council and DNR will use the results of the Pilots' efforts to determine the shape of the EMS Program into the future. To wrap up the Pilot program, Pilots will submit an annual report to DNR, which will be reviewed by staff. The annual report will contain a description of relevant data to document the Pilots' implementation of each of the

ten elements of the EMS, including relevant measurable progress on environmental improvements. Council may review the annual reports and make final recommendations to DNR for the structure and reporting requirements of the EMS program.

With Council's input, DNR will prepare a draft rule to meet the requirements of HF 2570 that describes:

" . . . methods and criteria for determining whether a system is in compliance with the provisions of this chapter. In adopting methods and criteria, the department shall consult with stakeholders in order to develop reasonable and appropriate criteria. In determining whether a system is in compliance with the provisions of this chapter, the department shall evaluate whether a system is making continuing progress in regard to the requirements of section 455J.3."

DNR will follow the rulemaking process with appropriate public comment prior to final draft submission for approval to the Environmental Protection Commission (EPC).

During the steps leading to the final rule, Council will prepare for the next round of EMS designation applications. Starting in Spring 2011, Council intends to promote the EMS program to solid waste planning areas throughout Iowa to encourage EMS



Environmental Education is one of the improvements the EMS focuses on. EMS grant money was used to help improve this educational facility at one of the pilot solid waste agencies.

applicants. Notable promotional methods include a video of EMS pilots solid waste agency and the DNR website updated with EMS Pilot documentation and example materials. Applications are planned to be reviewed and approved by the end of Summer 2011.

X. Conclusion

House File 2570 established an EMS program to encourage solid waste management agencies to develop and implement an EMS in order to achieve agency specific reductions in six areas of interest: Yard Waste Management, Hazardous Household Waste Collection, Water Quality Improvement, Greenhouse Gas Reduction, Recycling

“A new erosion control program was implemented as a result of our EMS. New procedures have been put in place with more emphasis on preventing erosion through operating techniques than just finding and fixing.

- John Foster,
Cedar Rapids/
Linn County
Solid Waste
Agency”



Key Recommendations for the EMS Program by the Pilot Solid Waste Agencies

1. The EMS development and implementation should be conducted over 24 months instead of 12.
2. Some EMS elements, such as Environmental Impacts and EMS Assessment, are more time intensive to implement and should be developed in the winter season when solid waste agencies are less busy.
3. Outside assistance, such as training, conference calls, and site visits, is essential to help the solid waste agencies develop and implement the EMS.
4. The pilot solid waste agencies learned a great deal from developing their EMS together as a group, such as sharing of road blocks and example programs, and intend to continue networking with each other in the future.
5. The Iowa-specific templates and example documents developed in the EMS Pilot Program will be an excellent resource for future solid waste agencies to streamline their EMS development.
6. Grant funding through the Solid Waste Alternatives Program should be aligned with the timing of EMS development and should be before the setting of objectives and targets.
7. Solid waste agencies require more assistance early in the EMS development. Less outside assistance may be required once the agencies get oriented and gain momentum in implementing the EMS.
8. Training on the EMS software should be integrated with the other EMS trainings.
9. An annual EMS conference for interested solid waste agencies is recommended to share lessons learned and best practices.
10. The pilot solid waste agencies have developed some suggested clarifications and modifications to the definition of the EMS elements. These suggestions will be provided to Council for consideration.

Services, and Environmental Education. The legislation established the 9-member Solid Waste Alternatives Program Advisory Council to oversee the EMS program development and to select and guide six pilot solid waste agencies through the initial development of an EMS. In the course of one year, the pilot solid waste agencies have developed an EMS framework which has allowed them to identify and set specific environmental goals for their agency, and to document and measure associated improvements. The improvements achieved from the pilot solid waste agencies were significant, and ranged from environmental improvements in the six areas of interest, as well as environmental management changes such as improved communication on environmental issues and enhanced tracking of environmental compliance.

Through the development and implementation of the EMS at the pilot agencies, many lessons have been learned and best practices established for EMS in Iowa solid waste agencies. The pilot solid waste agencies have compiled a wealth of example EMS documents, templates and resources which will ease the burden for future solid waste agencies to develop an EMS. Additionally, the pilot solid waste agencies provided valuable input and feedback on the EMS program.

With this input, Council and DNR have streamlined the program administration, created grant funding processes and purchased software tools for the EMS agencies. The lessons learned from the EMS Pilot Program will continue to assist DNR and the Council with determining the future of the Iowa EMS Program. In the next year, it is anticipated that DNR will prepare the final rules of the EMS Program and then allow additional solid waste agencies across Iowa to apply and enroll for EMS designation.

XI. Appendix

A. Pilot Case Studies

B. EMS Templates

“Pilots have done a lot of the hard work to develop example EMS materials and templates which will make it easier for the next entities to develop their EMS.

- Wendy Wittrock,
Cass County
Landfill and
Recycling Center

Appendix A

Pilot Case Studies

EMS Pilot Case Studies

PRE EMS ELEMENT: Conducting an EMS Gap Analysis

Waste Commission of Scott County

Landfill Service Area: All communities in Scott County, Iowa

Population Served: 164,690

Number of Full Time Staff Employed: 26

Number of Part Time Staff Employed: 2

Website: www.wastecom.com

Contact: Kathy Morris, Director

P.O. Box 563

Buffalo, IA 52728

(563) 381-1300

kmorris@wastecom.com



A gap analysis is an important first step in the development of an EMS. The purpose of the gap analysis is to review and identify elements of the EMS that are in place and functioning for the solid waste management agency. The gap analysis also identifies elements of the EMS that are in place but not functioning as desired, and EMS elements that are partially in place or do not currently exist. Conducting a thorough gap analysis allows the solid waste agency to prioritize and focus on those elements of the EMS that need the most attention to get the system in place and providing benefit to the organization.

Summary

The Waste Commission of Scott County (WCSC) used the Gap Analysis worksheet provided by GS&P to conduct the gap analysis. The EMS Core Team worked through the worksheet over several meetings. WCSC discovered that many of the EMS elements were at least partially in place such as Environmental Aspects, Legal and Other, Objectives and Targets, Action Plans, Key Resources and Responsibilities, and Assessment. Other EMS Elements were substantially not in place such as Environmental Policy and Reevaluation and Modification. The WCSC also began the process of understanding EMS terms and processes through conducting the EMS gap analysis.

Benefits

- The EMS gap analysis helped familiarize WCSC with EMS terminology and requirements.
- WCSC identified how existing programs and policies fit into the EMS.

- WCSC determined the missing elements of the EMS and grasped the scope of EMS development.
- Involving the entire EMS Core Team helped bring the breadth of organizational knowledge required to answer the gap analysis questions.

Hurdles

- Initially, the EMS Core Team had some difficulty with EMS terminology and definitions.
- Some of the EMS Core Team members felt discouraged by the number of gaps identified.

Advice to Future Iowa EMS Participants

- Conducting the EMS gap analysis by the whole EMS Core Team was an excellent orientation to the EMS. Because the EMS Core Team represents a wide spectrum of the organization, the information needed to complete the gap analysis was available. The exercise also began developing the Core Team's ownership of the EMS development process and needs.



Gap Analysis Check List

1. Does your organization have an environmental policy statement?
 Yes Comments: Components exist in Strategic Plan, Comp Plan, 28E Agreement
 No
 Partial

2. Does your environmental policy statement include the following:
 - a. A statement of intentions and principles in relation to your overall environmental performance?
 - b. A framework for action and setting environmental objectives and targets?
 - c. A commitment to continual improvement? Yes Comments:
 No
 Partial

3. Has the policy been communicated to staff?
 Yes Comments:
 No
 Partial

4. Has your organization identified and evaluated the actual or potential impacts to the environment, whether adverse or beneficial, from its activities services and facilities?
 Yes Comments: Idling Policy, SPCC, alternative fuels, spills, purchasing. Want to include health and safety.
 No
 Partial

5. Have your significant impacts to the environment been identified? Are they documented?
 Yes Comments: Yes to efficient lighting, stormwater.
 No
 Partial

6. Have the legal requirements for your operations and facilities, including the following been identified:
 - a. Relevant environmental laws?
 - b. Regulations and permits?
 - c. Worker health and safety regulations? Yes Comments: OSHA, DNR, permits, etc.
 No

Partial

7. Are the legal and other requirements documented?

Yes Comments: Most are written but some exist in different locations. Want to look at implementing a Compliance Calendar.

No

Partial

8. Is there a process for tracking any changes to the legal and other requirements described above?

Yes Comments: We follow rule changes, law changes. Need to implement a process to communicate and document it.

No

Partial

9. Have objectives been established that are relevant to the following:

- a. The environmental policy statement?
- b. Environmental issues and impacts previously identified?
- c. Views of interested parties?
- d. Other applicable factors?

Yes Comments: Data for budgeting, DNR reports. We are gathering data but not using it effectively.

No

Partial

10. Have detailed and quantifiable targets been established to achieve the stated objectives?

Yes Comments:

No

Partial

11. Has an action plan defining actions necessary to achieve the objectives and targets been established?

Yes Comments:

No

Partial

12. Does the action plan identify key resources, including fiscal matters, specific skills, facilities, partners, or other additional needs, necessary to carry out and complete the plan?

Yes Comments: Strategic Plan.

No

Partial

13. Does the action plan identify a timeline for completion of each described step?

- Yes Comments:
- No
- Partial

14. Does the action plan identify a schedule for periodically reviewing and updating, as conditions dictate, the objectives and targets?

- Yes Comments: Need to establish bi-weekly or monthly meetings with management team. Each facility should work to have employee meetings weekly.
- No

15. Has a process been established for internal communication with individuals, organizations, and entities that have a role or responsibility within the action plan?

- Yes Comments: Newsletter, bulletin boards, e-mail, meetings, one-on-one. Internal web site is in production.
- No
- Partial

16. Has a process been established to ensure that all responsible parties are familiar with the EMS and have the training necessary to capably execute their roles?

- Yes Comments: If it's a rule, we've done it, shared it and trained on it. The tools are in place to do that (i.e. PPE).
- No
- Partial

17. Has a process for external communication been established to reach out to those groups and organizations having an interest, stake, or role in your ongoing EMS program?

- Yes Comments: Need to focus on "selling our services" to the business community.
- No
- Partial

18. Have procedures been established and implemented for receiving and responding to relevant communication from external interested parties?

- Yes Comments: Need to document internal knowledge. Hard copy vs. electronic copy is an issue for us right now. Where is everything stored?
- No
- Partial

19. Has a documented process for monitoring key activities and measuring performance related to specific environmental objectives and targets been established?

- Yes Comments:
- No
- Partial

20. Has a documented procedure for assessing the function of each EMS component

and its effectiveness based on performance measurements been established?

- Yes Comments:
- No
- Partial

21. Has an assessment been completed?

- Yes Comments: EMS application, energy audit.
- No
- Partial

22. Has your organization defined an approach to reevaluating and modifying its EMS with the purpose of improving and strengthening it on an ongoing basis?

- Yes Comments:
- No
- Partial

23. Does this approach address areas where the EMS has met, exceeded, or failed to meet expectations?

- Yes Comments:
- No
- Partial

24. Does this approach identify root causes of those outcomes and develop additional goals and activities appropriate to each?

- Yes Comments:
- No
- Partial



EMS Pilot Case Studies

PRE-EMS ELEMENT: Determination of an EMS Fenceline

Cass County Landfill and Recycling Center

Landfill Service Area: Cass County and all member cities in Cass County, including Atlantic, Anita, Cumberland, Griswold, Lewis, Marne, Massena, and Wiota.

Population Served: 13,840

Number of Full Time Staff Employed: 5

Number of Part Time Staff Employed: 1

Website: www.casscountylandfill.com

Contact: Wendy Wittrock

65928 Jackson Road

Atlantic, IA 50022

(712) 243-1991

casscolf@dishmail.net

Summary

The EMS fenceline is a delineation of the scope of the EMS or the area or operation around which the EMS is developed. The statement could be an address for the facility or a map of the geographical boundary of the EMS. The purpose of defining the fenceline is to identify the limits of where the EMS efforts should be applied. Solid waste agencies typically have collaborations with other entities which add complexity in determining the extent of the agencies' control or influence. A solid understanding of the extent of operation control versus the operational influence is essential for developing an effective and efficient EMS.

Cass County Landfill and Recycling Center (CCLRC) developed a simple yet comprehensive fenceline statement. The CCLRC fenceline is delineated as the actual fenceline of the property, but also includes the programs and services within CCLRC's solid waste planning area. Including the programs and services outside the physical boundaries of the facility was essential for addressing all of the goals of the Iowa EMS. Without this inclusion, programs and services such as CCLRC's public recycling drop-off bins and environmental education outreach would not be in their EMS, eliminating important goals of the HF 2570. CCLRC developed the EMS fenceline through discussions with the EMS Core Team and documented the fenceline decision.

Benefits

- Defining the EMS fenceline at the start of the EMS assists in determining whether the agency has operational control versus whether the agency only has influence.

- The EMS fenceline assisted the pilots in determining appropriate objectives and targets, action plans, and monitoring and measurement. This allowed the pilots to focus first on where they could make the largest environmental improvements under their direct control.

Hurdles

- Determining the extent of influence outside the organization is sometimes difficult.
- A limited understanding of EMS at the beginning creates some difficulty with determining what should be included in or excluded from the EMS.

Advice to Future Iowa EMS Participants

- Create a simple yet comprehensive EMS fenceline statement. Make your best effort to define the EMS fenceline, but remember that the fenceline can be modified to address changing circumstances and to continually improve the EMS.

Cass County Environmental Control Agency

EMS Fenceline

The Cass County Environmental Control Agency is a 28E governmental entity made up of the cities, towns and unincorporated areas of Cass County that provides disposal and recycling options for the 13,800+ residents of Cass County. This facility receives approximately 9,000 tons of solid waste and construction/demolition waste per year for disposal and processes 1100+ tons of recyclable materials for market annually. This facility has 2 main processes: Disposal of regulated waste and processing of recyclable materials.

The fenceline for EMS implementation will include the actual physical fenceline of the facility which receives the waste for disposal and recycles the materials for markets. This facility is located at 65928 Jackson Road, Atlantic, Iowa. The fenceline will also include any programs or services within the planning area which includes all the cities, towns and unincorporated areas of Cass County.



EMS Pilot Case Studies

PRE -EMS: Identification of an Environmental Management Representative and the EMS Core Team

Rathbun Area Solid Waste Commission

Landfill Service Area: All cities and the unincorporated area of Appanoose County; the City of Seymour and Promise City in Wayne County

Population Served: 13,859

Number of Full Time Staff Employed: 5

Number of Part Time Staff Employed: 3

Website: www.raswc.org

Contact: Rodger Kaster, Jennifer Frampton

3020 McCarty Street

Centerville, Iowa 52544

(641) 437-7279

raswc@iowatelecom.net



Summary

Developing and implementing an effective EMS requires staff time and dedication. Most organizations that implement an EMS assign one person for the overall responsibility for the development and implementation of the EMS, commonly referred to as the Environmental Management Representative (EMR). To support the EMR, an EMS Core Team is identified in order to support the efforts of the EMR, ensure the EMS meets operational needs, and disseminate responsibilities.

Rathbun Area Solid Waste Commission (RASWC), like many Iowa solid waste agencies, has a small staff and is faced with a challenge to staff the EMR function, as well as the EMS Core Team.

RASWC also took an innovative approach to the Environmental Management Representative (EMR) role. Usually the EMR is a single individual, but RASWC determined they would prefer to have a two-person team to act as EMR. This decision has worked to their advantage by splitting the workload while allowing two staff to have a detailed working knowledge of the EMS. The team noted that good communication must be maintained for this strategy to be effective.

For the EMS Core Team, RASWC asked its Board members to fill the role. The EMS Core Team generally met monthly and reviewed the tasks completed by the EMRs. The Board took an active role and interest in the EMS, which provided additionally benefits in terms of understanding of necessary resources required for the EMS, public interest and

involvement in the EMS, and an insight from the entire community due to their varied backgrounds. The Board took a particular interest in the setting of objectives and targets, as well as developing the action plan and identifying key resources and additional needs.

Benefits

- Minimize impact to staffing by utilizing knowledgeable and committed volunteers for Core Team
- Board members typically bring a different perspective to the EMS Core Team including public involvement and community interest.
- Efficiency and understanding of the EMS was gained in the Board approval process for EMS-related matters
- Sharing the EMR role split the workload and expanded the number of staff with in-depth knowledge of the EMS

Hurdles

- EMS development can be slowed due to difficulty in scheduling around Board members participation
- Sharing the EMR role between two people requires a high degree of communication

Advice to Future Iowa EMS Participants

- Utilizing Commission Board members is recommended for agencies with small number of employees
- Sharing the EMR role should be evaluated on a case-by-case basis, with special attention to communication

RATHBUN AREA SOLID WASTE COMMISSION

RASWC
3020 McCarty Street
Centerville, IA 52544
Phone/Fax: 641-437-7279
raswc@iowatelecom.net

Iowa EMS Pilot Project
Environmental Management System
EMR and EMS Core Team Roster
Doc ID# 003EMS-09
December 14, 2009

EMS Core Team: Ralph Alshouse; City of Seymour representative, Board Chairman
 Jody McDanel; Appanoose County Board of Supervisors representative
 Marsha Mitchell; Mayor, City of Centerville representative
 Glenn Moritz; City of Centerville representative
 Rodger Kaster; RASWC Director, EMR
 Jennifer Frampton; RASWC Secretary/Treasurer, EMR
 Bill Buss; Hall Engineering, consultant



EMS Pilot Case Studies

EMS ELEMENT: Environmental Policy Statement

Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets, and its commitment to continual improvement through the EMS.

Dubuque Metropolitan Area Solid Waste Agency

Landfill Service Area: Dubuque and Delaware counties in Iowa

Population Served: 110,025

Number of Full Time Staff Employed: 12

Number of Part Time Staff Employed: 2

Website: www.dmaswa.org

Contact: Chuck Goddard

925 Kerper Court

Dubuque, IA 52001-2405

563-589-4354

cgoddard@cityofdubuque.org



Summary

An organization's environmental policy is a statement by management of its overall environmental commitments. The environmental policy should include certain minimum commitments including a commitment to environmental compliance as well as a commitment to continually improve environmental impacts. The statement should reflect the size and scope of the organization's operations and should be written in a format that serves to inform staff of management's commitment and expectations, but also be used as a statement to the public.

The Dubuque Metropolitan Area Solid Waste Agency (DMASWA) EMS Core Team developed their Environmental Policy Statement by adapting an existing document. DMASWA had a successful mission statement in place which had been reviewed and reapproved for fifteen years. Since this mission statement was widely recognized and understood throughout DMASWA, the EMS Core Team decided it best to modify the mission statement into an environmental policy which would meet the Iowa EMS definition. DMASWA provided the environmental policy to the Board for approval.

DMASWA is using its environmental policy to educate staff internally and externally about the EMS. The acronym "PRIDE" was created to facilitate the staff understanding and retention of the environmental policy.

- P** Pollution Prevention: Policy/Impacts
- R** Regulation Compliance: Legal/Resources/Needs
- I** Improvement: Action Plan/Training/Objectives & Targets
- D** Developing: Communication/Awareness
- E** Evaluation: Assessments/Reevaluate/Modify/Monitor & Measure

Benefits

- By using an existing policy, DMASWA facilitated acceptance and understanding the environmental policy.
- DMASWA used the environmental policy to raise staff awareness of the EMS and their environmental impacts.

Hurdles

- There could be resistance to modifying an existing policy.
- The existing policy may not lend itself to adaptation.

Advice to Future Iowa EMS Participants

- Before drafting an environmental policy statement, assess existing policy's and various planning documents for applicability.
- Use examples from the six pilots to craft a new policy statement.



925 Kerper Court
Dubuque, IA 52001
Phone: 563-589-4250

Dubuque Metropolitan Area Solid Waste Agency Environmental Policy

In order to control current and future economic and environmental liability, the mission of the Dubuque Metropolitan Area Solid Waste Agency is to provide environmentally sound, financially stable, fiscally responsible, community recognized, solid Waste Management services that include appropriate waste reduction, resource conservation, and disposal activities.

The DMASWA shall accomplish its mission by:

- Continuing to own and operate a good, environmentally-sound landfill at the present location.
- Facilitating well-planned, community-driven, sustainable waste reduction and resource conservation alternatives to the Agency landfill.
- Providing a stable funding system based on user fees (i.e., tipping fees and various direct charges) and minimizing tax subsidies.
- Maintaining reserve funds to cover appropriate items such as closure/post closure and care.
- Employing well-qualified staff and/or contractors.
- Fostering a customer service-based orientation toward waste haulers and other facility users.
- Studying and identifying alternative solid waste management methods, customer needs, and funding approaches, and providing for the implementation of services to fill identified voids.
- Providing a structure for community/member input to decisions and ongoing Board member education.

The DMASWA is committed to implementing an Environmental Management System to guide continuous improvements in facilities, programs, services, and partnerships, initially including yard waste management, household hazardous waste collection, water quality improvement, greenhouse gas reduction, recycling services, and environmental education. Objectives and targets will be reviewed periodically by the Agency to ensure compliance with regulatory standards. Progress will be measured and reported annually.

December 09



Elements of DMASWA'S Environmental Management System

- P** Pollution Prevention: Policy/Impacts
- R** Regulation Compliance: Legal/Resources/Needs
- I** Improvement: Action Plan/Training/Objectives & Targets
- D** Developing: Communication/Awareness
- E** Evaluation: Assessments/Reevaluate/Modify/Monitor & Measure

EMS Pilot Case Studies

EMS ELEMENT: Environmental Impacts

The organization identifies and evaluates the actual or potential impacts to the environment, whether adverse or beneficial, from its activities, services and facilities. During the evaluation process, significant impacts to the environment are determined.

Waste Commission of Scott County

Landfill Service Area: All communities in Scott County, Iowa

Population Served: 164,690

Number of Full Time Staff Employed: 26

Number of Part Time Staff Employed: 2

Website: www.wastecom.com

Contact: Kathy Morris, Director

P.O. Box 563

Buffalo, IA 52728

(563) 381-1300

kmorris@wastecom.com



Summary

Environmental impacts are changes to the environment that occur as a result of the activities performed within the EMS fence line. Environmental impacts can be both positive and negative. A negative environmental impact could be degradation of air quality that occurs as a result of the operation of diesel equipment, whereas a positive environmental impact may be the improvement of air quality as a result of substituting the use of biodiesel instead of regular diesel.

After an organization identifies their environmental impacts, a process to sort the most important environmental impacts from the least important must be developed. The environmental impacts deemed to be the most important to the organization are called significant environmental impacts.

The Waste Commission of Scott County (WCSC) facility and program managers each developed lists of the activities and services they provide that have environmental, health and safety impacts. The EMS Core Team then met to create a comprehensive list of all of the activities and services WCSC provides that have a positive or negative environmental, health or safety impact. The original list contained nearly 300 activities and many overlapped or were the same for each facility. The Core Team decided to group some activities together, which still retaining sufficient detail to maintain the integrity of the information.

The EMS Core Team then developed scoring criteria to rank the most significant environmental, health and safety impacts. These criteria were chosen to weigh the potential environmental compliance risk, environmental impact, employee health and safety, frequency, stakeholder interests, and priorities of the Iowa EMS legislation (HF 2570). Many criteria were considered initially, but only six were chosen by excluding criteria which overlapped.

The scoring of each activity and environmental impact was conducted by the EMS Core Team over several meetings. Once completed, the scoring was evaluated for a natural cutoff point. All activities which scored above this point had impacts considered “significant environmental impacts.” These significant environmental impacts become the priorities for making environmental improvements by setting EMS objectives and targets.

Benefits

- Developing the activities and environmental impacts list provided a long-term asset for understanding the relationships between facility operations and impacts to the environment.
- The ranking of environmental impacts assists to prioritize activities to be addressed in objectives and targets.
- Involving staff early in EMS development assisted in building EMS awareness and increased two-way communication in the organization.

Hurdles

- Identification of significance criteria that is important to the organization can be difficult.
- Using a consistent process for scoring of environmental impacts is important for the process.
- Determining how to include positive impacts as well as negative impacts in the same process is challenging.

Advice to Future Iowa EMS Participants

- Gathering input from staff early in the EMS helped create a sense of ownership in the EMS. Ensure the organization is able to receive and address the information, because there is a risk of having the opposite effect if staff feels management is not listening.
- Working collaboratively to conduct the significance scoring can be challenging but it built strong consensus with the EMS Core Team. Each organization should make the determination based on their individual needs and group dynamics.
- The activities and impacts evaluation was a very useful exercise. Avoid letting the list of activities grow too large. Keep the list to a manageable length, but with enough detail to make it useful.
- Keep detailed notes during the scoring, which will be extremely beneficial in writing the Environmental Aspects and Impacts Procedure. In addition, when the Core Team reevaluates the scoring each year, the procedure and notes will make the process much more efficient.

Waste Commission of Scott County
Environmental Activities and Impacts List

Facility	Component	Activity	Aspect	Normal / Abnormal Operations	EHS Impact (Positive or Negative) resulting from an aspect	Regulated	Impact to Natural Resources	Impact to Human Health	Frequency	Outreach	HF2570	TOTAL
All	EE	Providing livelhere program (community cleanups)	Waste Generation and disposal	Normal	Use of landfill space	1	5	3	5	5	5	24
All	Recycling, HHM	Providing an Automotive Fluids and Battery Program	Recycling	Normal	Preservation of landfill space/Conservation of natural resources	3	3	3	5	3	5	22
All	WQ	Mowing	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	3	3	3	3	5	22
All	Recycling	Internal recycling	Recycling	Normal	Preservation of landfill space/Conservation of natural resources	1	5	1	5	3	5	20
All	GHG	Mowing	Air Emissions	Normal	Degradation of air quality	1	3	3	3	3	5	18
All	H&S	Operating and Maintaining Equipment	Exposure/Injuries	Abnormal	Degradation of worker health	5	1	5	1	5	1	18
All	H&S	Operating and Maintaining Equipment	Exposure/Injuries	Normal	Degradation of worker health	5	1	3	5	3	1	18
All	WQ	Fueling and Fuel Storage	Spills	Abnormal	Degradation of soil, water and/or sediment quality	5	5	3	1	3	1	18
All	WQ	Maintenance of Commission equipment and vehicles	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	3	1	5	1	1	16
All	GHG	Generation of garbage at all facilities	Land Usage	Normal	Aesthetics and community environment	5	1	1	5	1	1	14
All	WQ	Snow/Ice Removal	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	3	1	3	1	1	14
All	GHG	Operation of Commission equipment and vehicles	Air Emissions	Normal	Degradation of air quality	1	3	1	5	1	1	12
All	GHG	Vehicles idling at facilities	Air Emissions	Normal	Degradation of air quality	1	3	1	5	1	1	12
All	GHG	Operation of Commission equipment and vehicles	Material Consumption	Normal	Use of natural resources	1	3	1	5	1	1	12
All	H&S	Administrative Activities	Exposure/Injuries	Abnormal	Degradation of worker health	1	1	5	1	1	1	10
All	LF	Administrative Activities	Waste Generation and Disposal	Normal	Use of landfill space	1	1	1	5	1	1	10
All	LF	Managing garbage from Commission operations	Waste Generation and Disposal	Normal	Use of landfill space	1	1	1	5	1	1	10
All	LF	Picking up litter	Waste Generation and Disposal	Normal	Use of landfill space	1	1	1	5	1	1	10
All	WQ	Administrative Activities	Water Consumption	Normal	Use of natural resources	1	1	1	5	1	1	10
All	WQ	Washing Equipment	Water Consumption	Normal	Use of Natural Resources	1	1	1	5	1	1	10
All	H&S	Fueling and Fuel Storage	Exposure/Injuries	Abnormal	Degradation of worker health	3	1	3	1	1	1	10
All	H&S	Administrative Activities	Exposure/Injuries	Abnormal	Degradation of worker health	1	1	3	1	1	1	8
All	WQ	Operating and maintaining Equipment	Spills	Abnormal	Degradation of soil, water and/or sediment quality	1	3	1	1	1	1	8
All		Providing Oil, Oil Filters and Antifreeze Drop-Off	Recycling	Normal								0
EDF	Recycling	Operation of EDF	Land Usage	Normal	Aesthetics and community environment	5	1	1	5	3	1	16
EDF	GHG	Managing EDF operations	Material Consumption	Normal	Use of natural resources	5	3	1	3	1	1	14

Waste Commission of Scott County
Environmental Activities and Impacts List

LF	WQ	Landfill operations	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	1	1	5	3	1	16
LF	WQ	Landfill operations	Stormwater/Surface Water Discharges	Abnormal	Degradation of water quality	5	3	3	1	3	1	16
LF	WQ	Managing leachate and condensate	Stormwater/Surface Water Discharges	Abnormal	Degradation of water quality	5	3	3	1	3	1	16
LF	H&S	Recycling activities -baling, sorting, derimring (C&D)	Exposure/Injuries	Abnormal	Degradation of worker health	3	1	5	1	3	1	14
LF	H&S	Managing leachate and condensate	Exposure/Injuries	Abnormal	Degradation of worker health	5	3	3	1	1	1	14
LF	H&S	Mixing the solidification pit	Exposure/Injuries	Abnormal	Degradation of worker health	5	3	3	1	1	1	14
LF	WQ	Shingle recycling and storage	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	1	1	5	1	1	14
LF	LF	Maintaining Dust control	Water Consumption	Normal	Use of natural resources	5	1	1	3	3	1	14
LF	GHG	Appliance Demanufacturing	Air Emissions	Abnormal	Degradation of air quality	5	3	1	1	1	1	12
LF	H&S	Appliance Demanufacturing	Exposure/Injuries	Abnormal	Degradation of worker health	5	1	3	1	1	1	12
LF	H&S	Monitoring and Ground Maintenance Activities	Exposure/Injuries	Abnormal	Degradation of worker health	5	1	3	1	1	1	12
LF	WQ	Appliance Demanufacturing	Spills	Abnormal	Degradation of soil, water and/or sediment quality	5	3	1	1	1	1	12
LF	WQ	Hauling leachate off-site	Wastewater generation and disposal	Abnormal	Degradation of water and air quality	5	1	1	1	1	1	10
MRF	Recycling	Providing a Recycling Processing Facility	Recycling	Normal	Preservation of landfill space/Conservation of natural resources	1	5	1	5	5	5	22
MRF	WQ	Oil, Oil Filters and Antifreeze Drop-Off	Spills	Abnormal	Degradation of soil, water and/or sediment quality	5	3	3	3	3	1	18
MRF	WQ	Oil, Oil Filters and Antifreeze Drop-Off	Stormwater/Surface Water Discharges	Abnormal	Degradation of water quality	5	5	3	1	3	1	18
MRF	WQ	Recirculating and use of stormwater in garden	Water Consumption	Normal	Conservation of natural resources	3	5	1	3	3	1	16
MRF	WQ	Glass Storage-Outdoor	Stormwater/Surface Water Discharges	Normal	Degradation of water quality	5	3	1	5	1	1	16
MRF	Recycling	Operation of MRF	Land Usage	Normal	Aesthetics and community environment	1	1	3	5	3	1	14
MRF	H&S	Recycling activities-receiving, sorting, baling, storing, shipping	Exposure/Injuries	Abnormal	Degradation of worker health	3	1	5	1	3	1	14
MRF	GHG	Managing MRF operations	Material Consumption	Normal	Use of natural resources	1	3	1	5	1	1	12

Waste Commission of Scott County
Environmental Impacts Significance Criteria

Significance Criteria	General Definition	Score of 1	Score of 3	Score of 5
Regulated	Degree to which the environmental aspect is subject to federal, state and local regulations. Also includes company policies and other restrictions where applicable.	Not regulated.	Subject to permit conditions or best management practices.	Strictly regulated.
Impact to Natural Resources	Size, volume or magnitude of impact to soil, surface water, stormwater, groundwater, water or air quality.	Low to no potential for release to environment or potential impact of release.	Potential for release with minimal to no impact.	High potential for release with significant impact.
Impact to Human Health	Is there an impact to worker health?	Low to no potential for exposure to injury.	Potential for exposure with minimal to no impact.	High potential for exposure.
Frequency	Possibility of occurrence of environmental impact, number of times it occurs and/or duration of impact.	Rarely (once every few years).	Regularly (several times a year).	High Frequency (several times per week/continuous).
Outreach	Actual or potential concern or perceptions of community, media and other stakeholders.	No to low potential for impact to the community.	Some potential for community impact.	High potential for impact to the community.
HF2570	Is the activity required by Iowa HF2570.	Not required for Iowa HF2570.		Required for Iowa HF2570.

EMS Pilot Case Studies

EMS ELEMENT: Legal and Other Requirements

The organization must identify the legal requirements for its operations and facilities, including relevant environmental laws, regulations and permits, and worker health and safety regulations, and have a process for tracking any changes in these requirements.

Metro Waste Authority

Landfill Service Area: Polk County; the cities of Carlisle, Hartford, and Norwalk (Warren County); the cities of Mingo and Prairie City (Jasper County); the city of Jefferson (Green County); and the cities of Adel, Dawson, Linden, Minburn, Perry, Redfield, and Waukee and the unincorporated areas in Dallas County.

Population Served: 475,401

Number of Full Time Staff Employed: 60

Number of Part Time Staff Employed: 6

Website: www.mwatoday.com

Contact: Judi Mendenhall

1105 Prairie Dr. SW

Bondurant, IA 50035

(515) 333-4430

jme@mwatoday.com



Summary

Solid waste management agencies manage numerous environmental legal requirements on a daily basis. Compliance with these legal requirements is the foundation of an effective EMS. As part of an EMS, identification and documentation of these environmental legal requirements is the first step. Legal requirements may include laws, regulations, permits, and other voluntary commitments by the organization. Additionally, under the Iowa EMS requirements, worker health and safety requirements also have to be identified. After developing the list of legal and other requirements, the organization needs to establish a process for tracking changes these requirements and updating the Iowa EMS, as needed.

Prior to implementing EMS, Metro Waste Authority (MWA) had an existing system for documenting and tracking legal and other requirements. To implement the EMS, MWA reviewed and evaluated their existing permits and updated their list of environmental legal and other requirements. MWA found that their operating permit from Iowa DNR provided references to the majority of their legal requirements and was the primary source, but other permits were also evaluated.

An outgrowth of this effort was the development of a compliance calendar to track tasks related to these requirements. This EMS software documents the list of requirements, provides a calendar of tasks, and sends out task reminder emails. MWA found this to be a relatively time intensive effort, but the result is a well-organized and thorough

compilation of legal and other requirements which is a resource for better environmental management.

MWA monitors changes to environmental legal and other requirements through subscriptions (paid and free) to listserves which provide e-mail updates on legal and other requirements. Changes to legal and other requirements are documented and updated in the EMS software.

Benefits

- Better organization leads to better management of legal and other requirements, including environmental compliance.
- The task of identifying the legal and other requirements increased staff knowledge of the organization's environmental commitments.
- Establishing a written procedure for this effort helps clarify the organization's method for monitoring and tracking changes to legal and other requirements.

Hurdles

- Most of the Pilots initially overlooked the health and safety regulations when identifying legal and other requirements.
- Identification of legal and other requirements is a time intensive effort.

Advice to Future Iowa EMS Participants

- Utilize the templates developed by the Pilots as a starting point. Most of the state and federal requirements will be the same for all solid waste agencies in Iowa.
- Use this task to improve the organization's environmental compliance management.

 <p>Metro Waste Authority Your Partner in Environmental Solutions</p>	<h2>Legal and Other Requirements</h2>	
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Citation	Description	Reference
Federal Regulations		http://www.gpoaccess.gov/cfr/index.html
Title 40 – Protection of Environment Chapter I – Environmental Protection Agency Subchapter C – Air Programs		
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards	
40 CFR 60	Standards of Performance for New Stationary Sources	
40 CFR 61	National Emission Standards for Hazardous Air Pollutants	
40 CFR 63	National Emission Standards for Hazardous Air Pollutants for Source Categories	
40 CFR 68	Chemical Accident Prevention Provisions	
40 CFR 98.340	Mandatory Green House Gas Reporting Rule	http://www.epa.gov/climatechange/emissions/ghg_infosheets.html http://www.epa.gov/climatechange/emissions/ghg_infosheets.html
Title 40 – Protection of Environment Chapter I – Environmental Protection Agency Subchapter D – Water Programs		
40 CFR 110	Discharge of Oil	
40 CFR 112	Oil Pollution Prevention	
40 CFR 122	EPA Administered Permit Programs: The National Pollutant Discharge Elimination System	
40 CFR 129	Toxic Pollutant Effluent Standards	
Title 40 – Protection of Environment Chapter I – Environmental Protection Agency Subchapter I – Solid Wastes		
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste	
40 CFR 257	Criteria for Classification of Solid Waste Disposal Facilities and Practices	
40 CFR 258	Criteria for Municipal Solid Waste Landfills	
40 CFR 260	Hazardous Waste Management System: General	
40 CFR 261	Identification and Listing of Hazardous Waste	
40 CFR 262	Standards Applicable to Generators of Hazardous Waste	
40 CFR 268	Land Disposal Restrictions	
40 CFR 273	Standards for Universal Waste Management	
40 CFR 279	Standards for the Management of Used Oil	
40 CFR 280	Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks	
Title 49 – Transportation Subtitle B – Other Regulations Relating to Transportation Chapter I – Pipeline and Hazardous Materials Safety Administration, Department of Transportation Subchapter C – Hazardous Materials Regulations		
49 CFR 171	General Information, Regulations, and Definitions	
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements	
49 CFR 173	Shippers General Requirements for Shipments and Packagings	
49 CFR 177	Carriage by Public Highway	
49 CFR 178	Specifications for Packagings	

 <p>Metro Waste Authority Your Partner in Environmental Solutions</p>	<h2>Legal and Other Requirements</h2>	
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Citation	Description	Reference
State Regulations		http://www.legis.state.ia.us/IAC.html
Air Programs		
567 IAC 20	Scope of Title – Definitions – Forms – Rules of Practice	
567 IAC 21	Compliance	
567 IAC 22	Controlling Pollution	
567 IAC 23	Emission Standards for Contaminants	
567 IAC 24	Excess Emission	
567 IAC 25	Measurement of Emissions	
567 IAC 26	Prevention of Emergency Emission Episodes	
567 IAC 27	Certificate of Acceptance	
567 IAC 28	Ambient Air Quality Standards	
567 IAC 29	Qualifications in Visual Determination of the Opacity of Emissions	
567 IAC 31	Nonattainment Areas	
567 IAC 33	Special Regulations and Construction Permit Requirements for Major Stationary Sources – Prevention of Significant Deterioration (PSD) of Air Quality	
567 IAC 34	Provisions for Air Quality Emissions Trading Programs	
PCBHRR: Polk County Board of Health Rules and Regulations.		
PCAQC: Polk County Air Quality Construction.		
Water Programs		
567 IAC 38	Private Water Well Construction Permits	
567 IAC 39	Requirements for Properly Plugging Abandoned Wells	
567 IAC 40	Scope of Division – Definitions – Forms – Rules of Practice	
567 IAC 41	Water Supplies	
567 IAC 42	Public Notification, Public Education, Consumer Confidence Reports, Reporting, and Record Maintenance	
567 IAC 43	Water Supplies – Design and Operation	
567 IAC 49	Nonpublic Water Supply Wells	
567 IAC 50	Scope of Division – Definitions – Forms – Rules of Practice	
567 IAC 51	Water Permit or Registration – When Required	
567 IAC 52	Criteria and Conditions for Authorizing Withdrawal, Diversion and Storage of Water	
567 IAC 53	Protected Water Sources – Purposes – Designation Procedures – Information in Withdrawal Applications – Limitations – List of Protected sources	
567 IAC 54	Criteria and Conditions for Permit Restrictions or Compensation by Permitted Users to Nonregulated Users Due to Well Interference	
567 IAC 55	Aquifer Storage and Recovery: Criteria and Conditions for Authorizing Storage, Recovery, and Use of Water	
567 IAC 60	Scope of Title – Definitions – Forms – Rules of Practice	
567 IAC 61	Water Quality Standards	
567 IAC 62	Effluent and Pretreatment Standards: Other Effluent Limitations or Prohibitions	
567 IAC 63	Monitoring, Analytical and Reporting Requirements	

Citation	Description	Reference
567 IAC 64	Wastewater Construction and Operation Permits	
567 IAC 66	Pesticide Application to Waters	
567 IAC 67	Standards for the Land Applications of Sewage Sludge	
567 IAC 69	Onsite Wastewater Treatment and Disposal Systems	
567 IAC 70	Scope of Title – Definitions – Forms – Rules of Practice	
567 IAC 71	Flood Plain or Floodway Development – When Approval is Required	
567 IAC 72	Criteria for Approval	
567 IAC 73	Use, Maintenance, Removal, Inspections, and Safety of Dams	
567 IAC 75	Management of Specific Flood Plain Areas	
567 IAC 76	Federal Water Resource Projects	
567 IAC 81	Operator Certification: Public Water Supply Systems and Wastewater Treatment Systems	
567 IAC 82	Well Contractor Certification	
567 IAC 83	Laboratory Certification	
567 IAC 122	Cathode Ray tube Device Recycling	
Solid Waste Programs		
567 IAC 100	Scope of Title - Definitions - forms - Rules of Practice	
567 IAC 101	Solid Waste Comprehensive Planning Requirements	
567 IAC 102	Permits	
567 IAC 103	Sanitary Landfills: Coal Combustion Residue	
567 IAC 104	Sanitary Disposal Projects with Processing Facilities	
567 IAC 105	Organic Materials Composting Facilities	
567 IAC 106	Citizen Convenience Centers and Transfer Stations	
567 IAC 108	Beneficial Use Determination: Solid By-Products as Resources and Alternative Cover Material	
567 IAC 109	Special Waste Authorizations	
567 IAC 110	Design, Construction, and Operation Standards for Solid Waste Management Facilities	
567 IAC 111	Financial Assurance Requirements for Municipal Solid Waste Landfills	
567 IAC 113	Sanitary Landfills: Municipal Solid Waste	
567 IAC 114	Sanitary Landfills: Construction and Demolition Wastes	
567 IAC 117	Waste Tire Management	
567 IAC 118	Discarded Appliance Demanufacturing	
567 IAC 119	Waste Oil	
567 IAC 123	Regional Collection Centers and Mobile Unit Collection and Consolidation Centers	
567 IAC 211	Financial Assistance for the Collection of Household Hazardous Materials and Hazardous Waste from Conditionally Exempt Small Quantity Generators	
567 IAC 214	Household Hazardous Materials Program	
Other Programs		
21 IAC 43	Fertilizers and Agricultural Lime	
21 IAC 44	On-Site Containment of Pesticides, Fertilizers, and Soil Conditioners	
21 IAC 45	Pesticides	

	Legal and Other Requirements	
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Citation	Description	Reference
State Number 10322	Elevator operating permit	Issued by the State of Iowa Labor Division; Elevator, Boiler, & Amusement Ride Bureau
Local Regulations		http://www.polkcountyia.gov/
Polk County Air Operating Permit	Limits for air pollutants at RCC	8120
Polk County, Iowa, zoning; Conditional use permit	Allows landfill in Polk County, IA	8150
CURRENT LOCAL FIRE CODE	City of Des Moines Municipal Code Chapter 46	Fire Prevention and Protection



Legal and Other Requirements



Permits, Registrations, Certificates, Licenses, etc.	Expires	Reference
BLD2007-02919	Building Permit, Polk County Public Works For 11802 SE 6 th Ave (Science Field Station/Interior remodel)	05/10/2008
BLD2006-02485	Grading Permit	06/14/2007
SEP2007-01859	Onsite Wastewater Treatment and Disposal System Permit, Polk County Public Works For 11802 SE 6 th Ave (installation?)	05/10/2008
77-SDP-01-72P-MLF	Solid Waste Facility Permit, IDNR	
05/905, 03/30/2006	Conditional Use Permit, Polk Co Bd. of Adj. Phase II expansion	12/31/2048
03/403, 03/2003	Conditional Use Permit, Polk Co Bd. of Adj. Biosolids storage (~44 acres)	8150
01/501, 07/13/2001	Conditional Use Permit, Polk Co Bd. of Adj. Construct telecommunications tower	8150
00/930, 01/19/2001	Conditional Use Permit, Polk Co Bd. of Adj. Expand disposal site (~93 acres)	28 years (01/19/2029?)
98/298, 04/24/1998	Conditional Use Permit, Polk Co Bd. of Adj. Construct Wetlands Treatment System & Land Application of Treated Effluent	8150
95/195, 04/27/1995	Conditional Use Permit, Polk Co Bd. of Adj. Support facilities (scale, admin, maint bldgs)	8150
70/684a, 05/1970	Conditional Use Permit, Polk Co Bd. of Adj. Solid Waste Disposal (~375 acres)	8150
IA-1262-1469	NPDES General Permit #1, Stormwater, IDNR	8140, 5A
03-TV-033	Title V Operating Permit, IDNR	8120.3
CWA 404 permit	Permit to drain wetlands	8366
CEMVR-OD-P-2002-141	Dept of Army Permit: Compensatory Wetland Mitigation, Army Corps of Engineers	12/31/2012 (Monitoring)
Attachment 6 of CUP 05/905, 77-SDP-01-72P	Compensatory Mitigation Plan, Project METRO 03011, 07/20/2004 (incorporated into CEMVR-OD-P-2002-141)	8366
Contract 75-6114-1-1136	Natural Resources Conservation Service, Group Planning Agreement, 06/29/2004 (incorporated into CEMVR-OD-P-2002-141)	8366
Log# 04-D-153-09-07-S	Section 401 Water Quality Certification, IDNR (incorporated into CEMVR-OD-P-2002-141)	8366
	Guidelines for Protection of Indiana Bat Summer Habitat, IDNR, Feb 2004, (incorporated into CEMVR-OD-P-2002-141)	8366
12869	Above ground storage tank registration	
12870	Above ground storage tank registration	
	Underground Injection Control permit, USEPA	8451.1
PD 13290	Fertilizer Manufacturer / Dealer License, IDA&LS	
PO 05965000	Pesticide Applicator License, IDA&LS	
2000	Scale License, IDA&LS	9131.A
77-SDP-46-94P-HHM	Solid Waste Facility Permit, IDNR	8120.3
IA0000553230	RCRA ID number, USEPA	
	Conditional Use Permit	
IA-2411-2264	NPDES General Permit #1, Stormwater, IDNR	8140

Title and Location: <\\San01MWA\Home\data\Share\EMS - Iowa\TEMPLATES\Legal and Other Requirements.docx>

Issue Date: 9/16/2004 Revision 2 Revision Date: 05/24/2010

Prepared By: Sara Kurovski

 <p>Metro Waste Authority Your Partner in Environmental Solutions</p>	<p>Legal and Other Requirements</p>	
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	NPDES General Permit #4, Onsite Wastewater Treatment & Disposal Systems, IDNR		8140.6
IAW000000044	Notification of PCB Activity, USEPA		8190
FZ 13290	Fertilizer Manufacture/Dealer License, IDA&LS		
77-SDP-10-76P-XFR	Solid Waste Transfer Station Permit, IDNR	05/06/2010	7A



EMS Pilot Case Studies

EMS ELEMENT: Objectives and Targets

The organization establishes objectives relevant to its policy, environmental issues and impacts previously identified, the views of interested parties, and other factors. Targets necessary for achieving the stated objectives are also established. A target is much more detailed than its objective and must be quantifiable.

Cass County Landfill and Recycling Center

Landfill Service Area: Cass County and all member cities in Cass County, including Atlantic, Anita, Cumberland, Griswold, Lewis, Marne, Massena, and Wiota.

Population Served: 13,840

Number of Full Time Staff Employed: 5

Number of Part Time Staff Employed: 1

Website: www.casscountylandfill.com

Contact: Wendy Wittrock

65928 Jackson Road

Atlantic, IA 50022

(712) 243-1991

casscolf@dishmail.net

Summary

Objectives and targets are essentially the overall environmental goals of the agency. These goals can be long or short term, and must provide include a specific target that the agency is trying to achieve such as a due date or an overall environmental improvement. The goals should be achievable, measureable and lead to environmental improvements. Under HF 2570, objectives and targets must be set for the six plan components — Yard Waste Management, Hazardous Household Waste Collection, Water Quality Improvement, Greenhouse Gas Reduction, Recycling Services, and Environmental Education. An example objective and target would be to reduce greenhouse gases by 10% by December 31, 2017. While setting objectives and targets for environmental improvements within the agency's operational control can be fairly straightforward, setting an objective and target for an area outside of the EMS fence line requires the agency to potentially rely on another organization to achieve their goals.

Cass County Landfill and Recycling Center (CCLRC) was faced with this challenge since it does not provide yard waste management services. Despite this limitation, CCLRC found a way to exert its influence in the solid waste planning area with a two-pronged approach. First, to address woody yard waste, such as fallen branches, CCLRC set an objective to provide a wood chipper as a resource to loan to local communities. Second, to address other plant waste, such as grass clippings, CCLRC set an objective to provide education on residential composting within the planning area. CCLRC

successfully expanded its influence to address an important environmental goal which was beyond its traditional services.

Benefits

- By setting tangible and measurable goals, the agency can demonstrate the effectiveness of its EMS.
- Build the EMS objectives and targets from existing environmental goals and/or programs.
- Developing objectives and targets provides a focus for the agency's EMS efforts, which can be utilized as an internal and external communication tool.
- Identifying appropriate metrics when setting objectives and targets will assist with monitoring and measurement efforts (refer to Monitoring and Measurement Element).

Hurdles

- Setting realistic objectives and targets can be a challenge, especially with baseline data or existing programs are not in place.
- If an objective and target is dependent on collaborations with external entities, the EMS agency must account for its extent of influence and control over the objective and target.
- Measurable targets can be difficult to identify for certain objectives, such as objectives related to environmental education.

Advice to Future Iowa EMS Participants

- Use objectives and targets to accomplish the agency's existing environmental goals, while addressing the goals of HF 2570.
- Some objectives and targets may have a multi-year deadline, so set measurable annual milestones to demonstrate progress on the EMS.
- Consider the ways objectives and targets can be used to communicate about your EMS, internally and externally. Internally, staff input on objectives and targets may create ownership and spread EMS awareness. Externally, accomplishment of objectives and targets can be communicated to the public to demonstrate the agency's environmental commitment.

**Cass County Environmental Control Agency
Environmental Management System (EMS) Pilot Projects
Objectives and Targets**

YARDWASTE										
Objective	Target	Metric	Yard Waste	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other

1 Residential composting education campaign
 5000 residents of Cass County by October 2010
 population in planning area, media coverage, education programs
 X

Provide a mobile chipper to the planning area yard waste
 cities and county by Dec 2010
 reduction in air emissions - tons of Nox per day
 X

Establish a Yard Waste Management Program for the
 3 planning area
 28E member communities by June 2011
 28E membership
 X

HOUSEHOLD HAZARDOUS										
Objective	Target	Metric	Yard Waste	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other

Educate remaining staff to prepare for mobile HHW
 1 events in the planning area
 all F/T staff trained F/t staff
 X

2 Conduct mobile HHW events in planning area
 3 mobile events by October 2010
 lbs of HHW collected
 X

increase use of less toxic cleaning materials within
 3 fenceline
 use 50% more environmentally friendly products by Dec 2011
 number of products used
 X

WATER QUALITY										
Objective	Target	Metric	Yard Waste	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other

1 Sponsor NRCS or SCS program
 sponsor 1 program by Oct 2010
 people educated
 X

2 increase awareness on illegal dumping and littering
 sponsor 2 events by Dec 2011
 # of events held
 X

3 minimize the landfill's impact on water quality
 reduce acres disturbed by 2012
 acres disturbed
 X

4 River Clean Up Project xx portion of xxx River by 2012 volume of debris collected X X

Objective	Target	Metric	Yard	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other
Determine Mandatory Greenhouse Gas Reporting Rule	determination by October 2010	metric tons of CO2								
1 compliance					X					

Establish a baseline for Greenhouse Gas Emissions for Cass County facilities within the fenceline (based on determination by June 2011 funding availability) metric tons of CO2 X

Objective	Target	Metric	Yard	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other
1 Reduce waste by supplying multiresidential facilities with recycle bins	increase by 5% yearly	tons of recyclables collected								
						X				

Provide mobile recycling collection trailer for community 2 events decrease waste by 5% from events yearly tons of recyclables collected X X

Objective	Target	Metric	Yard	Water Quality	GHG Emissions	Recycling Services	HHW	Envir	Educ	Other
1 Web page	Increase viewings by 5% yearly.	counter on web page								X

Environmental Compliance Calendar (based on funding availability) meet compliance dates X X X X

3 recycling center	2 school trips yearly	students on trips								X
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EMS Pilot Case Studies

EMS ELEMENT: Action Plan

Actions necessary to achieve the objectives and targets. The plan includes identifying the individuals and/or organizations responsible for carrying out specific tasks, timelines for completion of each step in the plan, and a schedule for periodically reviewing and updating, as conditions dictate, the objectives and targets.

Dubuque Metropolitan Area Solid Waste Agency	
Landfill Service Area: Dubuque and Delaware counties in Iowa Population Served: 110,025 Number of Full Time Staff Employed: 12 Number of Part Time Staff Employed: 2 Website: www.dmaswa.org Contact: Chuck Goddard 925 Kerper Court Dubuque, IA 52001-2405 563-589-4354 cgoddard@cityofdubuque.org	

Summary

The action plan is the road map in achieving an objective and target. An action plan can take many formats but it should outline the tasks that are necessary to accomplish the objectives and targets, responsibilities by job title or staff member name, deadlines for accomplishing each task, and other useful information such as needed resources. It is recommended that action plans are reviewed on a regular basis to ensure the tasks are being completed on time and within budget. Therefore, an action plan may be more useful if it includes space to provide notes through time on the status of each task.

The Dubuque Metropolitan Area Solid Waste Agency (DMASWA) developed a straightforward and well-organized action plan format based on available EMS example documents. The action plan is arranged by listing objectives and targets with metrics and the related plan component areas from HF 2570. Under each objective and target, general tasks were identified with sufficient detail to make progress but not become an unwieldy document. Each task has an associated person responsible, deadline and area to note the status toward completion. The action plan was populated through several discussions at the EMS Core Team meetings. These discussions included current status of the objective and target, necessary steps to accomplish the objective and target, and responsible staff. The action plans are going to be transferred into Intalex for tracking in the future.

Benefits

- A well-organized document creates a structure for a clear path toward accomplishing objectives and targets.
- A good action plan can provide a record of the EMS efforts and decisions.
- Developing the action plan helps the organization determine the steps required for success and can reveal additional tasks which were not previously considered.

Hurdles

- Determining the appropriate level of detail in the tasks can be challenging.
- Determining the frequency in which to update the action plan to keep it current.

Advice to Future Iowa EMS Participants

- Create an action plan format that fits best within your organization. If there is an existing format, use it. If not, the templates from the six EMS Pilots will be helpful.
- Discuss assignments and deadlines with the EMS Core Team as well as supervisors before making commitments.
- Be realistic with deadlines and expectations. If a crucial deadline is missed, review and revise the action plan as necessary.

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
A <i>Increase STA (Seal of Testing Assurance) certified compost produced at DMASWA facility (internal) Improve soils</i>	<i>Triple compost production from FY09 by 12/31/2012</i>	<i>Tons of compost produced</i>	X	X	X		X	X
Action Plan	Deadline	Responsibility	Status			Key Resources		
1 Establish a Composting Task Force to make recommendations to Agency Board	1/1/2010	Chuck						
2 Research & determine list of recommendations from task force to Agency Board	5/1/2010	Chuck						
3 Implement recommendations from composting task force	9/1/2010	Doug						
4 Reduce contaminants in compost (improved monitoring, daily debris removal, and enforcement on illegal dumping at site)	7/1/2010	Doug						
5 Maintain production of STA quality compost by testing 3 times per year.	3 times per year	Chuck						
6 Submit MSW Composting Permit application with variance requests related to managing Source-Separated Organics (SSO)	4/1/2010	Chuck						
7 Increased composting of SSO	12/31/2012	Paul						
8 Increase feedstock from fall leaf cleanups, lawn services, tree services and storm debris cleanup	12/31/2011	Chuck						
9 Increased specification of STA compost in public projects in service area	12/31/2012	Chuck						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

10	Explore transition of currently composted feedstocks to private sector operation.	12/31/2010	Chuck	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed			
B	<i>Reduce potential CO2e fugitive landfill gas emissions (internal) climate impact</i>	<i>reduce by 0.5% by 12/31/2012</i>	<i>tons of potential fugitive CO2e</i>	X	X	X	X		X			
	Action Plan	Deadline	Responsibility	Status						Key Resources		
1	Expand diversion of residential food scraps through the city of Dubuque curbside collection program	12/31/2011	Paul									
2	Expand diversion of commercial food scraps through private hauler collection programs	12/31/2011	Paul									
3	Expand "zero waste" events diverting food scraps and compostable paper to composting	12/31/2011	Paul									
C	<i>Increase small scale, on-site compost production using local materials (external) improve soils & climate mitigation</i>	<i>100 new residential and commercial on-site compost production practices by 12/31/2012</i>	<i>New on-site residential and commercial composting initiatives tons of feedstock managed</i>	X	X	X				X		
	Action Plan	Deadline	Responsibility	Status						Key Resources		
1	Expand on-site, backyard composting, and mulch mowing promotion (external)	12/31/2011	Bev									
2	Increase education and promo materials on organics management best practices.	12/31/2011	Bev									

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

3	Offer assistance to institutions exploring larger on-site composting alternatives using generated feedstocks.	12/31/2011	Paul	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
	Objective	Target	Metric						
D	<i>Increase Hazardous Material diversion/avoidance in Agency operations (internal) Removing toxics from environment</i>	5% per year	<i>Pounds of material</i>		X			X	X
	Action Plan	Deadline	Responsibility	Status	Key Resources				
1	Investigate less hazardous materials to use in Agency operations	10/1/2010	Doug						
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
E	<i>Increase Household Hazardous material diversion from landfill (external) Removing toxics from environment</i>	<i>Expanded availability for residential HHM drop off at DMASWA RCC by July 1, 2011</i>	<i>Hours of operation and number of locations available</i>		X			X	X
	Action Plan	Deadline	Responsibility	Status	Key Resources				
1	Certify additional employees for HHM responsibilities	9/1/2010	Doug						
2	Increase hours of operation	7/1/2011	Doug						
3	Increase CFL drop off locations in service area by 10 additional locations with staff trained and operational	9/1/2010	Bev						
4	Promo for expanded HHM opportunities	12/1/2010	Bev						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
F								
<i>Establish permanent drop off location in Delaware County for HHM (external) Removing toxics from environment</i>	7/1/2011	<i>Drop off operational</i>		X			X	X
Action Plan	Deadline	Responsibility	Status					
1	March, 2010	Chuck, Bev						
2	April, 2010	Chuck						
3	Beginning 9/1/2010	Chuck						
G								
<i>Increase community product stewardship initiatives (external) Removing toxics from environment</i>	<i>Add 5 locations and 1 new material by 10/1/2010</i>	<i>Locations and materials available</i>				X	X	X
Action Plan	Deadline	Responsibility	Status					
1	November, each year	Bev						
2	Begin 5/1/2011	Chuck, Bev						
3	3/1/2010	Chuck	completed					

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
H								
<i>Reduce amount of bare soil acres within DMASWA facility (internal)</i>	10/15/2010	<i>Bare soil acres within DMASWA facility</i>		X				
Action Plan	Deadline	Responsibility	Status					
1	10/15/2010	Doug	Key Resources					
Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
I								
<i>Improve surface water quality in DMASWA facility (internal)</i>	10/15/2011	<i>Turbidity and Nitrogen levels</i>		X				
Action Plan	Deadline	Responsibility	Status					
1	10/15/2011	Doug/Chuck	Key Resources					
2	10/15/2011	Doug						
3	7/1/2011	Doug/Bev/Nancy						
Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
J								
<i>Increase awareness and monitoring of storm water impacts from non-point water pollution sources (external)</i>	12/1/2010	<i>Number of communities initiating storm sewer labeling</i>		X			X	X
Action Plan	Deadline	Responsibility	Status					
1	7/1/2010	Bev	Key Resources					
2	9/1/2010	Bev						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

3	Increase information and education materials in biannual newspaper inserts	11/1/2010	Bev										
4	Offer cameras to monitor illegal dumping sites in Dubuque County	7/1/2010	Chuck/Bev										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
K	<i>Reduce carbon footprint at DMASWA facilities (internal) Mitigate climate impact</i>	<i>Reduce by 50% by 12/31/2012</i>	<i>tons of CO2e</i>			X			X				
	Action Plan	Deadline	Responsibility	Status		Key Resources							
1	Temporarily use ICLEI GHG assessment	6/30/2010	Paul										
2	Establish baseline GHG assessment (IDNR)	6/30/2010	Chuck/Paul										
3	Construct a LFG collection, monitoring and flaring system	9/10/2010	Chuck										
4	Develop beneficial use of DMASWA landfill gas	12/31/2012	Chuck										
5	Implement protocols and procedures to reduce GHG production from excessive and inefficient fossil fuel use and refrigerant management in staff, contractor and customer operations.	12/31/2011	Doug										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
L	Identify known reductions in carbon footprint in DMASWA service area using formula calculations mitigate climate impact	reduce by _____ TPY by 12/31/2012	tons of CO2e			X			X				
	Action Plan	Deadline	Responsibility	Status		Key Resources							
1	Partner with local groups to provide education on GHG generation and reduction strategies, lighter carbon footprint, and climate change mitigation	12/31/2012	Bev/Paul										

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

2	Establish partnerships to implement a check out program for electricity use monitors (Kill-A-Watt) supplied by DMASWA	12/31/2010	Bev										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
M	Become a "zero waste" facility (internal) Conservation of natural resources	90% of discards are composted, reused, or recycled	weight of discards			X	X	X	X				
	Action Plan	Deadline	Responsibility	Status			Key Resources						
1	Conduct informal internal waste sorts to determine areas for improvement	8/1/2010	Doug										
2	Determine baseline on purchases to establish "Buy recycled" status	12/1/2010	Doug										
3	Coordinate efforts with contractors and customers	12/31/2010	Doug										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
N	Establish sustainable diversion priorities (external) conservation of natural resources	9/1/2010	report & recommendations to Board	X			X	X					
	Action Plan	Deadline	Responsibility	Status			Key Resources						
1	Conduct glass recycling study	6/30/2010	Chuck										
2	Conduct waste sort (weights)	6/30/2010	Chuck										
3	Conduct visual sort of all incoming loads	9/1/2010	Paul/Chuck										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

	<p>O</p> <p>Promote opportunities for expanded recycling (external) conservation of natural resources</p>	<p>increase tonnage of recycling and reuse materials from non-residential organizations by 5% by 1/1/2012</p>	<p>diverted tons of materials</p>						
	Action Plan	Deadline	Responsibility	Status	Key Resources				
1	Encourage recycling in non-residential sector through recognition in spring insert	5/1/2010	Bev			X	X		
2	Expand % of CDDR projects implementing recycling and reuse practices	6/30/2011	Chuck						
3	Expand special event recycling throughout planning area	12/31/2010	Chuck						
4	Increase number of recycling drop off stations around county	8/1/2010	Chuck						
5	Expand Green Vision Education Program	9/1/2010	Bev						
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
P	Increase community product stewardship initiatives (external) reduced toxics in environment	12/31/2010	# of organizations/businesses offering recycling/reuse opportunities				X	X	X
	Action Plan	Deadline	Responsibility	Status	Key Resources				
1	Determine current efforts being offered for recycling and/or reuse of carpet, mattresses, electronics, etc.	6/30/2010	Bev						
2	Recognize partners in web and printed info	11/1/2010	Bev						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
Q Establish Agency Green Team (internal) worker health/community environment	7/1/2010	Green Team established	X	X	X	X	X	X
Action Plan	Deadline	Responsibility	Status					
1 Identify 4 member team and begin meeting on monthly basis	7/1/2010	Don/Doug	Key Resources					
2 Initial report & recommendations to Agency Board	10/1/2010	Don						

EMS Pilot Case Studies

EMS ELEMENT: Identify Key Resources and Additional Needs

As part of reviewing the draft of the action plan, conduct an inventory of key resources needed to carry out and complete the action plan. Resources may include fiscal matters, specific skills, facilities, partners, and additional needs. Upon completion of the inventory the action plan may need to be adjusted accordingly.

Dubuque Metropolitan Area Solid Waste Agency

Landfill Service Area: Dubuque and Delaware counties in Iowa

Population Served: 110,025

Number of Full Time Staff Employed: 12

Number of Part Time Staff Employed: 2

Website: www.dmaswa.org

Contact: Chuck Goddard

925 Kerper Court

Dubuque, IA 52001-2405

563-589-4354

cgoddard@cityofdubuque.org



Summary

Identifying key resources and additional needs is a necessary step in developing effective action plans because action plans may require commitment on a variety of resources. The availability of these resources may affect the success of an action plan. For example, if staff is not available to accomplish a necessary step in the action plan, then the associated objective and target may not be achieved. Additionally, key resources such as a collaborating entity, grant funding or training, should also be assessed and included in the action plan, if applicable. Assessing these needs before launching the action plan ensures the plan has been well-developed and adequately considered.

The Dubuque Metropolitan Area Solid Waste Agency (DMASWA) identified key resources and additional needs thoroughly through several discussions with the EMS Core Team. These resources and needs ranged from regulatory requirements to staff time and budgeting to educational, media and non-profit partnerships. By conducting this detailed inventory, DMASWA was better prepared to execute their action plan in an effective manner.

Benefits

- Identifying key resources and additional needs helps refine the action plan and provide insights to accomplishing tasks.

- This early assessment of availability of resources is necessary to ensure an effective and efficient action plan.
- Considering key resources can stimulate creative ways to accomplish tasks and broaden the reach of the agency.

Hurdles

- Providing too little detail in the key resources identification can cause an action plan to not accomplish its goals.
- Be realistic in staff and resource availability and expectations.

Advice to Future Iowa EMS Participants

- Conduct the assessment of key resources and additional needs simultaneously with developing the action plan.
- Brainstorm with the EMS Core Team to evaluate potential resources and determine the most effective path forward.

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
A <i>Increase STA (Seal of Testing Assurance) certified compost produced at DMASWA facility (internal) Improve soils</i>	<i>Triple compost production from FY09 by 12/31/2012</i>	<i>Tons of compost produced</i>	X	X	X		X	X
Action Plan	Deadline	Responsibility	Status			Key Resources		
1 Establish a Composting Task Force to make recommendations to Agency Board	1/1/2010	Chuck						
2 Research & determine list of recommendations from task force to Agency Board	5/1/2010	Chuck						
3 Implement recommendations from composting task force	9/1/2010	Doug						
4 Reduce contaminants in compost (improved monitoring, daily debris removal, and enforcement on illegal dumping at site)	7/1/2010	Doug						
5 Maintain production of STA quality compost by testing 3 times per year.	3 times per year	Chuck						
6 Submit MSW Composting Permit application with variance requests related to managing Source-Separated Organics (SSO)	4/1/2010	Chuck						
7 Increased composting of SSO	12/31/2012	Paul						
8 Increase feedstock from fall leaf cleanups, lawn services, tree services and storm debris cleanup	12/31/2011	Chuck						
9 Increased specification of STA compost in public projects in service area	12/31/2012	Chuck						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

10	Explore transition of currently composted feedstocks to private sector operation.	12/31/2010	Chuck	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed					
B	<i>Reduce potential CO2e fugitive landfill gas emissions (internal) climate impact</i>	<i>reduce by 0.5% by 12/31/2012</i>	<i>tons of potential fugitive CO2e</i>	X	X	X			X					
	Action Plan	Deadline	Responsibility	Status						Key Resources				
1	Expand diversion of residential food scraps through the city of Dubuque curbside collection program	12/31/2011	Paul											
2	Expand diversion of commercial food scraps through private hauler collection programs	12/31/2011	Paul											
3	Expand "zero waste" events diverting food scraps and compostable paper to composting	12/31/2011	Paul											
C	<i>Increase small scale, on-site compost production using local materials (external) imporve soils & climate mitigation</i>	<i>100 new residential and commercial on-site compost production practices by 12/31/2012</i>	<i>New on-site residential and commercial composting initiatives tons of feedstock managed</i>	X	X	X								X
	Action Plan	Deadline	Responsibility	Status						Key Resources				
1	Expand on-site, backyard composting, and mulch mowing promotion (external)	12/31/2011	Bev											
2	Increase education and promo materials on organics management best practices.	12/31/2011	Bev											

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

3	Offer assistance to institutions exploring larger on-site composting alternatives using generated feedstocks.	12/31/2011	Paul	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
	Objective	Target	Metric						
D	<i>Increase Hazardous Material diversion/avoidance in Agency operations (internal) Removing toxics from environment</i>	5% per year	<i>Pounds of material</i>		X			X	X
	Action Plan	Deadline	Responsibility	Key Resources					
1	Investigate less hazardous materials to use in Agency operations	10/1/2010	Doug						
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
E	<i>Increase Household Hazardous material diversion from landfill (external) Removing toxics from environment</i>	<i>Expanded availability for residential HHM drop off at DMASWA RCC by July 1, 2011</i>	<i>Hours of operation and number of locations available</i>		X			X	X
	Action Plan	Deadline	Responsibility	Key Resources					
1	Certify additional employees for HHM responsibilities	9/1/2010	Doug						
2	Increase hours of operation	7/1/2011	Doug						
3	Increase CFL drop off locations in service area by 10 additional locations with staff trained and operational	9/1/2010	Bev						
4	Promo for expanded HHM opportunities	12/1/2010	Bev						

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
F								
<i>Establish permanent drop off location in Delaware County for HHM (external) Removing toxics from environment</i>	7/1/2011	<i>Drop off operational</i>		X			X	X
Action Plan	Deadline	Responsibility	Status					
1	March, 2010	Chuck, Bev						
2	April, 2010	Chuck						
3	Beginning 9/1/2010	Chuck						
Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
G								
<i>Increase community product stewardship initiatives (external) Removing toxics from environment</i>	Add 5 locations and 1 new material by 10/1/2010	<i>Locations and materials available</i>				X	X	X
Action Plan	Deadline	Responsibility	Status					
1	November, each year	Bev						
2	Begin 5/1/2011	Chuck, Bev						
3	3/1/2010	Chuck	completed					

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed	
H									
<i>Reduce amount of bare soil acres within DMASWA facility (internal)</i>	10/15/2010	<i>Bare soil acres within DMASWA facility</i>		X					
Action Plan	Deadline	Responsibility	Status						Key Resources
1	10/15/2010	Doug							
I									
<i>Improve surface water quality in DMASWA facility (internal)</i>	10/15/2011	<i>Turbidity and Nitrogen levels</i>		X					
Action Plan	Deadline	Responsibility	Status						Key Resources
1	10/15/2011	Doug/Chuck							
2	10/15/2011	Doug							
3	7/1/2011	Doug/Bev/Nancy							
J									
<i>Increase awareness and monitoring of storm water impacts from non-point water pollution sources (external)</i>	12/1/2010	<i>Number of communities initiating storm sewer labeling</i>		X			X	X	
Action Plan	Deadline	Responsibility	Status						Key Resources
1	7/1/2010	Bev							
2	9/1/2010	Bev							

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

3	Increase information and education materials in biannual newspaper inserts	11/1/2010	Bev										
4	Offer cameras to monitor illegal dumping sites in Dubuque County	7/1/2010	Chuck/Bev										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
K	Reduce carbon footprint at DMASWA facilities (internal) Mitigate climate impact	Reduce by 50% by 12/31/2012	tons of CO2e			X			X				
	Action Plan	Deadline	Responsibility	Status		Key Resources							
1	Temporarily use ICLEI GHG assessment	6/30/2010	Paul										
2	Establish baseline GHG assessment (IDNR)	6/30/2010	Chuck/Paul										
3	Construct a LFG collection, monitoring and flaring system	9/10/2010	Chuck										
4	Develop beneficial use of DMASWA landfill gas	12/31/2012	Chuck										
5	Implement protocols and procedures to reduce GHG production from excessive and inefficient fossil fuel use and refrigerant management in staff, contractor and customer operations.	12/31/2011	Doug										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
L	Identify known reductions in carbon footprint in DMASWA service area using formula calculations mitigate climate impact	reduce by _____ TPY by 12/31/2012	tons of CO2e			X			X				
	Action Plan	Deadline	Responsibility	Status		Key Resources							
1	Partner with local groups to provide education on GHG generation and reduction strategies, lighter carbon footprint, and climate change mitigation	12/31/2012	Bev/Paul										

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

2	Establish partnerships to implement a check out program for electricity use monitors (Kill-A-Watt) supplied by DMASWA	12/31/2010	Bev										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
M	Become a "zero waste" facility (internal) Conservation of natural resources	90% of discards are composted, reused, or recycled	weight of discards			X	X	X	X				
	Action Plan	Deadline	Responsibility	Status			Key Resources						
1	Conduct informal internal waste sorts to determine areas for improvement	8/1/2010	Doug										
2	Determine baseline on purchases to establish "Buy recycled" status	12/1/2010	Doug										
3	Coordinate efforts with contractors and customers	12/31/2010	Doug										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				
N	Establish sustainable diversion priorities (external) conservation of natural resources	9/1/2010	report & recommendations to Board	X			X	X					
	Action Plan	Deadline	Responsibility	Status			Key Resources						
1	Conduct glass recycling study	6/30/2010	Chuck										
2	Conduct waste sort (weights)	6/30/2010	Chuck										
3	Conduct visual sort of all incoming loads	9/1/2010	Paul/Chuck										
	Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed				

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

O	Promote opportunities for expanded recycling (external) conservation of natural resources	increase tonnage of recycling and reuse materials from non-residential organizations by 5% by 1/1/2012	diverted tons of materials	Status	Key Resources	X	X	X		
									Deadline	Responsibility
1	Encourage recycling in non-residential sector through recognition in spring insert	5/1/2010	Bev							
2	Expand % of CDDR projects implementing recycling and reuse practices	6/30/2011	Chuck							
3	Expand special event recycling throughout planning area	12/31/2010	Chuck							
4	Increase number of recycling drop off stations around county	8/1/2010	Chuck							
5	Expand Green Vision Education Program	9/1/2010	Bev							
P	Increase community product stewardship initiatives (external) reduced toxics in environment	12/31/2010	# of organizations/businesses offering recycling/reuse opportunities	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
1	Determine current efforts being offered for recycling and/or reuse of carpet, mattresses, electronics, etc.	6/30/2010	Bev					X	X	X
2	Recognize partners in web and printed info	11/1/2010	Bev							

Iowa EMS Pilot Program - DMASWA 2010 (3/2/2010)

Objective	Target	Metric	Yard Waste	Water Quality	Green house Gas	Recycling	HHM	Env Ed
Q Establish Agency Green Team (internal) worker health/community environment	7/1/2010	Green Team established	X	X	X	X	X	X
Action Plan	Deadline	Responsibility	Status					
1 Identify 4 member team and begin meeting on monthly basis	7/1/2010	Don/Doug	Key Resources					
2 Initial report & recommendations to Agency Board	10/1/2010	Don						

Dubuque Metropolitan Area Solid Waste Agency

EMS Roles and Responsibility Matrix

Effective Date: 7/1/2010

Reviewed By: _____

Revision Number: 0

Reviewed By: _____

EMS Activity	Job Title							
	Director Public Works	DMASWA Administrator	DMASWA Facilities Supervisor	DMASWA Education and Communication Coordinator	Core Team Resource Management Coordinator	DMASWA Board of Directors	DMASWA Landfill Foreman	
Identify and Track Environmental Aspects and Impacts	S	S	S	L	S			
Tracking/Analyzing New Regulations		L	S					
Permit Management		S	L					
Comply with Regulatory Requirements		L	S					
Track Environmental Objectives, Targets and Action Plan				L	S			
Integrate EMS Practices into Hiring & Performance Assessment Practices	L	S	S					
Develop Budget for EMS	L	S	S					
Train Employees	S	L						
Communicating with External Interested Parties				S	L			
Communicate Environmental Expectations with Contractors	S	L						
Maintain EMS Procedures and Policies		L						
EMS Awareness Activities		L	S	S				
Maintain Operational Controls		S	L					
Coordinate Emergency Preparedness and Response Efforts			L				S	
Monitoring and Measurement		L						
Compliance Assessments/Inspections for Legal and Other		L	S					
Correct Nonconformances	S	L	S					
Maintain EMS Records		L		S				
EMS Assessment Internal	S	L	S	S	S			
Coordinate EMS Management Review	L	S				S		

Note: L=Lead S=Support



EMS Pilot Case Studies

EMS ELEMENT: Communication, Training and Awareness

Establish processes for internal and external communication. External communication will include reaching out to those groups and organizations that have been identified as having an interest, stake, or role in the organization's ongoing EMS program. There must also be procedures for receiving and responding to relevant communication from external interested parties.

Internal communication is directed to individuals, organizations and entities that have a role or responsibility within the action plan. Internal communication includes a process to ensure that all responsible parties are familiar with the EMS and have the training necessary to capably execute their roles.

Cedar Rapids/Linn County Solid Waste Agency

Landfill Service Area: Linn County and its 17 cities

Population Served: 208,574

Number of Full Time Staff Employed: 32

Number of Part Time Staff Employed: 0

Website: www.solidwasteagency.org

Contact: Marie DeVries

1954 County Home Road

Marion, IA 52302

(319) 377-5290

MDeVries@solidwasteagency.org



Summary

For an EMS to be effective, internal and external communication of elements of the EMS needs to occur. First, employees need to have understanding of the EMS and their associated role in its success. Additionally, a method to receive suggestions and inquiries from employees regarding the EMS greatly assists in continual improvement. External communication of the EMS is also critical, especially for solid waste agencies. Success of an environmental program implemented by a solid waste agency may rely significantly on external organizations and/or the public. External communication must account for outreach to stakeholders as well as the process for receiving and responding to inquiries from external parties.

Early in the development of their EMS, the Cedar Rapids/Linn County Solid Waste Agency (Agency) began its EMS awareness outreach by surveying staff on their awareness and knowledge of EMS prior to any formal EMS training. After the initial survey, the EMS Core Team delivered EMS orientation presentations to staff, providing an overview of the EMS progress to date and next steps. The intent of the orientation was to introduce basic EMS terminology and begin engaging staff in the EMS process. A follow up survey will be conducted to determine the effectiveness of the agency's EMS training and awareness efforts.

An effective way that the Agency addressed EMS training was to combine their greenhouse gas objective and target with their internal training programs. In order to reduce greenhouse gases, the Agency received assistance from the local utility provider to identify energy efficiency methods that could be implemented at their facilities. As part of this service, the local utility provided staff training on energy efficiency.

As far as external communication, the Agency already had existing communication programs. It was fairly easy for the agency to add EMS considerations to their existing processes and procedures.

Benefits

- The EMS greatly improves communication of environmental issues across the agency staff.
- Providing training associated with accomplishing an objective and target enhances the agency's ability to successfully reduce an environmental impact.

Hurdles

- Determining the correct timing for awareness and communication outreach. The Core Team wanted to ensure staff was involved in the EMS development, but early in the EMS development, the Core Team members were still receiving EMS training themselves. They had a fear of having too little information to share and not being able to answer questions that arose.
- The Core Team was preoccupied with developing the EMS components, but they felt it was important to gather input from staff early on to encourage ownership of the EMS. The challenge was ensuring the comments were recorded, tracked and pursued so that staff was validated, while continuing to develop other EMS components. If the Core Team was perceived by staff not to be listening to their input, it could become difficult to implement the EMS effectively. If the Core Team focused too much on addressing comments, they could get derailed from EMS development efforts.

Advice to Future Iowa EMS Participants

- Strike a balance on the decision of when and how to engage staff in the EMS development.
- Develop an internal PR strategy for initial EMS implementation/roll-out.

Staff Questionnaire: EMS Pre-test

3/19/10

No need to put your name on this pre-test. The results will be summarized and presented as percentages. (e.g 20% agreed; 80% disagreed, etc.)

1. Please indicate which best describes your knowledge of Environmental Management System or EMS.

I have heard something about an EMS.

I know the Agency has an EMS in place.

I know the Agency has an EMS in place, and I understand its purpose.

What's an EMS?

2. The Agency has goals for improving environmental conditions (such as erosion control).

Yes No Don't know

3. As an employee, I can make a difference in the Agency's impact on the environment.

Agree Disagree

4. EMS requires the Agency to compete with other landfill organizations in Iowa.

Agree Disagree Don't know

5. On which of the following areas does EMS focus? (Check all that apply.)

recycling services

yard waste management

water quality improvements

greenhouse gas reduction

household hazardous waste collection

environmental education

6. I think we (the Agency) do a pretty good job of managing waste and recyclables.

Agree Disagree

7. I think we (the Agency) could do a better job with....(name one thing or activity related to the environment):

8. I think we (the Agency) do a good job of(name one thing or activity related to the environment):

9. I know who to ask or where to find answers to environmental questions related to my job.

Yes No

Wait! There's more on the back.

10. Describe in a few words how your specific job affects the environment.

11. How concerned are you about the impact the landfill/Agency has on the environment?
(check one)

not concerned somewhat concerned very concerned

12. The Agency must receive permits from (check all that apply):

- Iowa Dept. of Natural Resources
- U.S. Environmental Protection Agency
- City of Cedar Rapids
- Iowa Dept. of Health
- Iowa Dept. of Agriculture
- Occupational Safety & Health Administration (OSHA)
- Linn Soil & Water Conservation District
- Linn County Air Quality
- City of Marion

Thanks!

EMS Pilot Case Studies

EMS ELEMENT: Monitoring and Measurement

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

Rathbun Area Solid Waste Commission

Landfill Service Area: All cities and the unincorporated area of Appanoose County; the City of Seymour and Promise City in Wayne County

Population Served: 13,859

Number of Full Time Staff Employed: 5

Number of Part Time Staff Employed: 3

Website: www.raswc.org

Contact: Rodger Kaster

3020 McCarty Street

Centerville, Iowa 52544

(641) 437-7279

raswc@iowatelecom.net



Summary

Monitoring and measurement of environmental improvements is a critical component in the measuring success of the EMS. Each objective and target must have an associated metric, as well as other key activities in which environmental progress should be measured. These metrics can vary greatly, but should be identified and tracked through time to measure the progress being made by the agency. Metrics can include number of training sessions provided, number of kWh reduced, tons of material recycled, and completion of a technology review, to name a few. Monitoring and measuring progress can also identify weaknesses in the EMS, especially when objectives and targets tracked over time are not producing the desired results.

Rathbun Area Solid Waste Commission (RASWC) used a very simple method for monitoring progress on objectives and targets. The EMRs identified metrics for each objective and target, as well as the associated action plan items. The EMR used a dedicated notebook to track steps and accomplishments made throughout the EMS development and implementation. Hand written notes were entered into the notebook as tasks were completed and metrics were collected. These notes recorded dates and detailed the efforts toward objectives and targets. A summary of the notes will then be synthesized into a report format.

Rathbun intends on entering objectives and targets and the associated action plans into Intalex for tracking in the future. However, until the Intalex system is populated, tracking

and recording results in one notebook is a simple method to monitor and measure progress.

Benefits

- Tracking successes and failures helps the organization with continuous improvement.
- Acknowledging successes grows pride and builds momentum in the EMS effort.
- Tracking metrics can be done using simple tools, including a notebook, or excel spreadsheet.

Hurdles

- Identification of baseline data for monitoring and measurement can cause some objectives and targets to be delayed.
- Identifying appropriate metrics is sometimes difficult and may need to be adjusted during EMS implementation.

Advice to Future Iowa EMS Participants

- Attempt to identify appropriate and easy to collect metrics at the time of objective and target development.
- If baseline data is not available, consider setting an action plan item to collect the data as part of the objective and target.
- Develop clear methods and protocols, including frequency of data collection and tools for tracking progress while developing the EMS action plan.
- Ensure the responsible person(s) for monitoring and measurement have been identified and are aware of their responsibility.

**RATHBUN AREA SOLID WASTE COMMISSION
EMS OBJECTIVES/TARGETS, ACTION PLANS**

GREENHOUSE GAS

Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other							
										Responsibility	Deadline	Target	Responsibility	Deadline		
Implement energy and fuel reduction strategies for RASWC facilities and equipment	DISCUSS reduce fuel and energy consumption by 5% per ton of material processed	fuel and energy consumption, resulting carbon offsets from reductions Responsibility	X	X	X	X	X	X	X							
										1 Investigate use of biodiesel in RASWC vehicles	7/1/2010	100% 4/10 5/10	2009 113.6 87 74.7 54.2 47.9 75.3 67.4 66.2 590.3	2010 76.1 57 73.7 65.4 43.3 43.9 67.8 53.5 482.70	March April May June July Aug Sept Oct	30
										2 Reduce fuel consumption on OCC Collection Route 3 Attach front entry to RASWC office creating air space between climate controlled office and outside	7/1/2010, 8/1/2010 10/31/2010	3/10 8/10	107.60 18% 18% 18%			
Reduce greenhouse gas emissions through landscaping and sustainable agricultural practices at RASWC facilities	Target by December 2011	resulting carbon off-sets from new plantings/practices	X	X	X	X	X	X	X							
Action Plan	Deadline	Responsibility	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other						

**RATHBUN JEA SOLID WASTE COMMISSION
EMS OBJECTIVES/TARGETS, ACTION PLANS**

EDUCATION

Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other
Increase awareness of recycling and proper disposal methods throughout the planning area.	by December 2010	# of brochures distributed, # of visitors to facility, # of contacts with public/groups	X	X	X	X	X	X	
Action Plan	Deadline	Responsibility							
1 Complete and furnish RASWC Education Center by Spring 2010.	5/1/2010	JF	5/10						
2 Offer tours of RASWC facilities to all 4-6th grade students in the planning area.	6/15/2010	JF	6/10						
3 Develop and publish RASWC web page.	6/1/2010	JF	6/10						
4 Develop and publish annual newsletter to be circulated throughout planning area.	8/1/2010	JF	7/10						
5 Install LED scroll sign at recycling drop-off site to announce events etc.	9/1/2010	JF							
6 Create information station at RASWC Office and stock with informational brochures to be developed for public.	10/1/2010	JF							

**RATHBUN EA SOLID WASTE COMMISSION
EMS OBJECTIVES/TARGETS, ACTION PLANS**

RECYCLING

Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other
Increase recycling practices among residential and commercial groups in the planning area	5% increase in 2010 over 2009	tons of marketed recyclables, # of recycling edu. events				X		X	
Action Plan	Deadline	Responsibility							
1 Evaluate feasibility of cardboard ban at Transfer Station.	12/1/2010	RK							
2 Promote permanent, more comprehensive recycling programs at all school districts in the planning area.	8/20/2010	JF/RK							
3 Encourage a permanent recycling program at Honey Creek Resort State Park.	12/1/2010	RK							
4 Maintain and improve communication with area industries in regard to source reduction and recycling measures.	ongoing	RK							
5 Purchase and utilize recycling containers for use at large scale events in community	7/1/2010	JF							

School Recycling
Moravik *Conderville*
 .99 .95
 .59 .57

 1.58 1.81

8/10

7/10



EMS Pilot Case Studies

EMS ELEMENT: Assessment

The organization must have documented procedures for assessing the function of each component and its effectiveness of and conformance with the EMS plan. Assessment is the process of drawing conclusions from the performance measurements.

Cedar Rapids/Linn County Solid Waste Agency

Landfill Service Area: Linn County and its 17 cities

Population Served: 208,574

Number of Full Time Staff Employed: 32

Number of Part Time Staff Employed: 0

Website: www.solidwasteagency.org

Contact: Marie DeVries

1954 County Home Road

Marion, IA 52302

(319) 377-5290

MDeVries@solidwasteagency.org



Summary

The purpose of an EMS assessment is to proactively identify what is working in the EMS, as well as potential weaknesses in the EMS. The first step in conducting an EMS assessment is to identify an assessor, preferably someone who has not had direct and close involvement in the development of an EMS. The assessor will then work with the Environmental Management Representative (EMR) and the EMS Core Team to develop an EMS assessment schedule to interview staff and review EMS documentation and records. Immediately following the completion of the assessment, the assessor and the EMR review the results and determine if there are any weaknesses in the EMS that need to be addressed. Equally important, the assessor should identify commendable practices that exceed the requirements of the EMS. EMS assessments should be conducted on an annual basis at a minimum.

Cedar Rapids/Linn County Solid Waste Agency (Agency) developed an effective solution to the challenge of identification of an assessor. The Agency selected two internal assessors. The first assessor was a new employee and had little to no interaction with the EMS. The second assessor worked for the East Central Iowa Council of Governments (ECICOG). This assessor had attended the quarterly training sessions and participated on the EMS Core Team, but is external to the Agency. The ECICOG staff fit the job description well, having an interest and knowledge of environmental concerns, being independent and impartial, and having a desire to assist with continuous improvement of the Agency's EMS. Since ECICOG and the Agency have a longstanding relationship, there is a high potential for this staff member to continue to fill the role of auditor in the future.

Benefits

- An auditor with the appropriate qualifications was identified, with the potential for serving in the role for multiple years.
- Agency staff was not depleted to focus on filling the auditor role.
- An outside perspective was provided, but balanced with sufficient familiarity with the Agency's operations.

Hurdles

- Collaboration with other entities may not provide the stability or level of control desired by the EMS organization for the assessment.
- The organization may have to provide training for the auditor.
- Proper planning and coordination may be a challenge.

Advice to Future Iowa EMS Participants

- If staff availability is limited, looking to a collaborating entity to fill the role of auditor can be helpful. Consider the stability of the working relationship and the level of communication with the entity.

Internal EMS Audit Plan

Date: July 12, 2012

Preparer: Laura Fiffick

Facility: Cedar Rapids Fenceline (Multiple)

Facility/Department/Area	EMS Element	Auditor(s)	Auditee(s)	Time	Special Instructions
EMR	1,2,3,4,5,6,7,8,9,10	John Horaney Jennifer Ryan-Fencil	Marie DeVries	8:30 - 10:00	With document review
County Home Road	1, 2, 3, 4, 5, 6, 7	John Horaney Jennifer Ryan-Fencil	John Foster	30 minutes	Interview will be conducted during field visit (10 - 3:30)
Operations Manager	1, 2, 3, 4, 5, 6, 7	John Horaney Jennifer Ryan-Fencil	Jerry Olsten	30 minutes	Interview will be conducted during field visit (10 - 3:30)
Senior Management	1, 4, 6, 10	John Horaney Jennifer Ryan-Fencil	Karmin McShane	TBD	
All facilities	1, 7, 6	John Horaney Jennifer Ryan-Fencil	Staff	15 minutes	Interview will be conducted during field visit (10 - 3:30)
Site 1 and 3 Landfill and Compost Facility	1, 2, 3, 4, 5, 6, 7	John Horaney Jennifer Ryan-Fencil	Floyd Pelkey	30 minutes	Interview will be conducted during field visit (10 - 3:30)



Environmental Management System



Date: July 12, 2010

Lead Auditor: Laura Fiffick

Audit Team Member(s): Jennifer Ryan-Fencel and Joe Horaney

Participants: Marie DeVries, John Foster, Karmin McShane, Jerry Olsten, Floyd Pelkey

Audit Agenda

8:00 – 8:30 - Audit opening meeting with EMS Core Team

8:30 – 10:00 – Documents, records, and discussion with the EMR

10:00 – 3:30 – Site visits and staff interviews

3:30 – 4:30 – Auditor wrap up

4:30 – 5:00 – Closing meeting



Environmental Management System Pilot Program



CEDAR RAPIDS/LINN COUNTY SOLID WASTE AGENCY FIRST ANNUAL INTERNAL EMS AUDIT

The first annual environmental management system (EMS) internal audit was conducted on July 13, 2010. The audit consisted of a review of all of the Iowa EMS elements within the entire fenceline of the Cedar Rapids/Linn County EMS. The audit was conducted from 8:00 a.m. to 5:00 p.m. Interviews were conducted with the Environmental Management Representative (EMR), EMS Core Team, Executive Director, Site Supervisors and staff. Site tours were held at Site 1 and 2. Documents and records associated with the EMS were also reviewed.

The following general observations were made during the EMS Audit:

- All employees interviewed were familiar with the EMS, understood who to call in the event of an emergency or an environmental question, and were generally aware of either their individual impacts on the environment or overall environmental improvements of the organization. Many of the staff interviewed could describe environmental accomplishments of the organization in detail, including a description of the significant impacts. Fifteen to twenty staff members from across the organization were interviewed.
- Regular inspections of maintenance shops are conducted to facilitate environmental compliance.
- Monthly staff meetings are held in order to update staff on the EMS and safety related issues. Records are kept with attendance of staff members noted.
- Extensive progress has been made on the erosion objective and target. Several staff members noted the recent changes and improvements as a result of the EMS.
- The EMS Core Team noted that the EMS has greatly improved coordination and communication amongst staff on environmental projects and issues.
- An employee-generated idea on a method to save energy use was implemented as a result of the energy audit and associated training.
- Additional EMS procedures and associated records need to be generated.



Internal EMS Audit Results Form

Scope/Facility: Cedar Rapids/Linn County Solid Waste Agency

Auditors: Laura Fiffick, Joe Horaney and Jennifer Ryan-Fencel

Date: July 13, 2010

Iowa EMS Element Number and Description		Evidence	Audit Results/Findings	
Number	Description	Evidence	Finding(s)	Iowa EMS Reference
1	Environmental Policy Statement	Reviewed EMS Policy Interviewed EMR, EMS Core Team, Executive Director (ED), and Staff	<p>The Policy has not been formally adopted.</p> <p>The ED thinks the Policy needs to be reformatted or a condensed version be used to educate staff.</p> <p>Commendable: Staff at Site 2 are very engaged and knowledgeable of the EMS and overall organization environmental goals.</p>	“Statement of the organization of its intentions and principle...”
2	Environmental Impacts	Review Environmental Impacts List Interviewed EMR and EMS Core Team	<p>An Environmental Impacts Procedure should be written to document the process for evaluating Impacts and subsequent reviews.</p> <p>Identification of significant impacts should be completed.</p>	“During the evaluation process, significant impacts to the environment are determined”
3	Legal and Other Requirements	Reviewed permit list, legal list, and contract list Interviewed EMR, EMS Core Team, and Site Supervisors	<p>The Legal and Other Procedure should be modified to include a description of how changes to legal requirements are incorporated into the EMS.</p> <p>Commendable: The list of contracts and responsibilities is a helpful management tool.</p>	“...and have a process for tracking any changes in these regulations.”

Iowa EMS Element Number and Description		Audit Results/Findings	
Number	Description	Evidence	Finding(s)
4	Objectives and Targets	Reviewed Objectives and Targets lists Interviewed EMR, Core Team, ED and staff	The EMS Core Team needs to determine how frequently objectives and targets are to be updated and tracked. Objectives and Targets should be set for all significant impacts
5	Action Plan	Review Action Plans Interviewed EMR and EMS Core Team	A process for tracking progress of action plans should be determined and implemented.
6.	Key Resources and Additional Needs	Review Key Resources Table and Action Plans Interviewed EMR, EMS Core Team, ED and staff	None
7	Communication/Training/Awareness	Reviewed Procedure, Training Matrix (NOTE: No Records were reviewed) Interviewed EMR, EMS Core Team, Site Supervisors and staff	A method for recording and tracking inquires from external interested parties needs to be established.
8	Monitoring and Measurement	Interviewed EMR and EMS Core Team (NOTE: No records were reviewed)	A monitoring and measurement procedure needs to be developed and implemented describing the process of collecting, tracking and updating metrics. Metrics data should be collected.
9	Assessment	As this was the first Assessment, this element was not audited	An assessment procedure needs to be developed.

Iowa EMS Reference
 “The organization establishes objectives relevant to its policy environmental issues, and impacts previously identified...”
 “...and a schedule for periodically reviewing and updating...”

“There must also be procedures for receiving and responding to relevant communication from external interested parties.”
 “A documented process for monitoring key activities and measuring performance related to the specific environmental objective and target.”
 “The organization must have documented procedures for assessing the function of each component...”

Iowa EMS Element Number and Description		Audit Results/Findings		
Number	Description	Evidence	Finding(s)	Iowa EMS Reference
10	Reevaluation and Modification	As this was the first Assessment, this element was not audited	Decisions on the process of documenting findings, root cause, corrective action and management review need to be made by the EMS Core Team.	The reevaluation and modification element is an activity that allows an organization to improve and strengthen the EMS...”

EMS Pilot Case Studies

EMS ELEMENT: Reevaluation and Modification

The reevaluation and modification element is an activity that allows an organization to improve and strengthen the EMS on an ongoing basis. This element considers areas where the EMS has met, exceeded, or failed to meet expectations. Identify root causes of those outcomes, and develop additional goals and activities appropriate to each. It's an opportunity to realize the organization's commitment to continuous improvement and should not be looked upon negatively.

Metro Waste Authority

Landfill Service Area: Polk County; the cities of Carlisle, Hartford, and Norwalk (Warren County); the cities of Mingo and Prairie City (Jasper County); the city of Jefferson (Green County); and the cities of Adel, Dawson, Linden, Minburn, Perry, Redfield, and Waukee and the unincorporated areas in Dallas County.

Population Served: 475,401

Number of Full Time Staff Employed: 60

Number of Part Time Staff Employed: 6

Website: www.mwatoday.com

Contact: Judi Mendenhall

1105 Prairie Dr. SW
Bondurant, IA 50035

(515) 333-4430

jme@mwatoday.com



Summary

Reevaluation and modification is an important part of the EMS continual improvement process and generally involves two separate phases. The first phase is follow up to the internal EMS assessment and the second phase is conducting a senior management review.

Internal EMS assessments identify strengths and weaknesses in the EMS. EMS elements which are not meeting the requirements of the EMS or not providing value to the organization need to be evaluated. The purpose of the evaluation is to identify the root cause of the weakness of the EMS, instead of a "find and fix" approach. By identifying the root cause, the EMR and the EMS Core Team can take appropriate steps to address the situation and ultimately prevent reoccurrence.

The second phase of reevaluation and modification is senior management review. The senior management review should be conducted on an annual basis, and should evaluate the EMS as a whole, and should specifically evaluate the progress on environmental performance, including:

- Review the policy for adequacy
- Review the list of significant impacts

- Discuss objectives, targets, and action plans to reduce significant impacts
- Discuss monitoring and measurement including metrics
- Discuss key resources and whether there are additional needs for the EMS
- Discuss communication methods and responses
- Discuss EMS assessment process and results

The results of the senior management review should be documented and the EMS should be updated accordingly.

Metro Waste Authority (MWA) had an existing system to address weaknesses identified in the internal EMS assessment and other periodic inspections. MWA completes a standardized form and forwards the form to the Nonconformance Coordinator. The Nonconformance Coordinator enters the identified weakness into a tracking system. The Nonconformance Coordinator ensures the weakness is investigated, the root cause is identified and corrective actions are employed. MWA tracks these corrective actions.

MWA conducts a management review on an annual basis, with both its executive director and the MWA Board. The management review provides a forum to discuss the EMS and associated environmental performance. The management review includes a review of the EMS procedures, progress on EMS objectives and targets, status of corrective actions and recommendations for EMS improvement.

Benefits

- Reevaluation and modification provides an opportunity for the organization to review its progress and adapt the EMS to improve effectiveness.
- Conducting root cause analysis helps to prevent reoccurrences of environmental impacts by addressing the underlying factors contributing to EMS weaknesses.
- Preparing for the management reviews allows the organization to review its EMS progress on at least an annual basis.

Hurdles

- Identification of root cause of an EMS weakness and follow up on corrective action can sometimes be difficult in light of limited staff time and priorities.

Advice to Future Iowa EMS Participants

- Develop a process to identify weaknesses of the EMS, and to conduct a thorough root cause analysis.
- Keep top management informed throughout the year with regular updates on the EMS progress, including successes and challenges.
- Determine what level of management should be involved in the EMS reevaluation and modification according to the EMS agency's structure and needs.

METRO WASTE AUTHORITY

MEETING NOTES 09-21-10

Attendance: Tom Hadden, Judi Mendenhall, Jeff Dworek, Reo Menning, Geri Crawford, Sara Kurovski, Paul Nemmers, Roxanne Wilken

1. EMS Pilot Program Implementation

a. Internal audit results

i. Opportunities for improvement-determine responsible person(s)

- Environmental Policy – Our policy didn't include a framework for action. Per EMR, this item does not require any action. EMR will provide answer during the next audit regarding Metro Waste Authority's framework for action.
- Environmental Impacts – Commendable work teams. It was noted during the audit that the EMS procedure should match the process for determining significant aspects. **Action: Judi and Reo to update the procedure to fit the need of determining significant aspects.**
- Legal and Other Requirements – Compliance Manager received a commendable. We need to update Legal and Other Requirement list with actual regulation from OSHA. It is noted that the legislation states safety is part of EMS. Judi and Roxanne have completed this action.
- Objectives and Targets – RCC staff received commendable.
- Action Plan – Need to determine a process/schedule for reviewing and updating Action Plans. Suggestion was given to add Action Plan Updates to Core Team monthly agenda and Core Team members to provide quarterly updates.

Action: Formalize the process on how we review and update Action Plans. Judi will determine if SOP is needed.

Question: The question was raised if Core Team members need to enter all Action Plan activities into Intelex or into work teams' current Excel spreadsheets.

Response: For continual improvement items that are NOT true objective and targets, work teams should create a general objective for those continual improvement items that will be looked at and researched. Those items would be listed as EMP's in the O&T module in Intelex. This way those items will be captured in the Intelex system as well.

Suggested Example of Work Team Objective: The CO work team will identify continual improvement projects and work to advance approximately (include # of projects) in Fiscal Year ().

- Key Resources and Additional Needs – No findings.
- Communication, Training, and Awareness – The training matrix did not specify if training is conducted on an annual basis or upon beginning of employment. Suggestion was given to not use training matrix going forward, as we have tracking systems that show when training is scheduled and who took specific training courses. **Consensus of Core Team, do not use training matrix any longer.**
- Monitoring and Measurement – Metrics need to be identified for each Objective and Target and tracked according to the procedure. Not all current O&T's in the Intelex system included metrics. **Action: Core Team members to review their specific O&T's and include metrics, if needed, in the Target section of the O&T Module in Intelex. Deadline October 15.**
- Assessment – No findings.
- Reevaluation and Modification – Received commendable for having a CPAR form in place for several years to track corrective/preventive actions and their resolutions. However CPAR forms are not being completely filled out, in particular, the fields related to root cause. **Suggestion: Look into the six “whys” which help to identify the root cause. Include this information on the back of the CPAR form – refer to example from Laura Fiffick.**

Question was raised of when employees should fill out a CPAR form. **Suggestion: CPAR forms are to be filled out when an item needs additional follow up. Action: Provide a guidance document on how to fill out the CPAR form and/or explain the process during the October 7, landfill employee meeting. Responsible person: Jeff Dworek**

b. Fenceline

- Recommendation, wait to add Metro Park West to our fenceline possibly next year.

c. Aspect and Impact list

- Roxanne is meeting with work teams this week. Central Office work team will meet this Wednesday. Work teams will review current aspects and impacts list, add any new activities, and identify any obsolete activities.

Reo asked if the Core Team or Work Teams would look at the current list and sort out anything that is not relevant or is obsolete. Should we pair down the list?

Reo asked if a decision could be made on how we are to deal with the “positive” aspects – should they be kept on the list or off the list. *Note: the ranking is meant for negative aspects not positives.*

Action: Schedule an additional Core Team meeting to review the Aspects and Impacts list and review the ranking.

d. Annual Report

- It was decided that only the significant aspects and impacts will be requested from Pilots as part of the final report.
- Judi and Reo met with Leslie Goldsmith about the annual report. The DNR is working with Intellex software designers to create a “push button” report that will pull data from the Intellex software. Most of the information that Pilots need to deliver will come from the Intellex software. Leslie Goldsmith will have a draft report template for SWAPAC to review in October. The next SWAPAC meeting is scheduled for October 25 at 10:00 am. The Pilot meeting will be held October 21 in Dubuque.

e. Timeline (draft)

- Judi reviewed the EMS Annual Planning Schedule, and added various procedures and other documents to it that will need to be updated on an annual basis. A “Communications” heading where information can be added for staff communications was added to the schedule. **Action: Reo will include any communication items to the EMS Annual Planning Schedule. i.e., provide a monthly column on EMS in Waste Words.**

Question: Jeff asked what the difference between reviews and procedure reviews were.

Response: Roxanne clarified that reviews are for documents that are not procedures but still need to be reviewed annually to ensure they are current; procedures are actual procedures that need to be signed off on noting they were reviewed.

Action: To include more EMS training and awareness during split-shift meetings, and all employee meetings. Judi will update the EMS Annual Planning Schedule with more information.

Jeff requested once we go through EMS and develop O&T’s could the documents be shared with staff in December prior to the January 2011 training.

Action: Next year the Environmental Aspects and the Objectives and Targets will be moved up by one month or earlier, so the O&T’s are set before we start budgeting in October.

f. Intelex

- Email notification has been turned on in the Intelex system. Any issues can be directed to Judi or Geri.

g. Management Review

- No report.

2. Work Team Reports

a. MCC

- Judi reviewed the email that was sent to the Core Team regarding open items from the MCC work team.

1. Mid American Energy Proposal
2. Intercom Proposal

Jeff explained he is looking at the bigger picture of what these work teams specifically do and will follow through on. Some work teams are identifying items that are integrated in with the operational components of facilities being upgraded. Jeff would like to utilize the work teams to identify issues by using the CPAR form. The CPAR forms can then be turned over to Mike or himself for budget decisions. Once the budget is determined some items can be turned back over to the work teams.

Judi asked what would be a reasonable response time to get back to work teams on questions, since we hold Core Team meetings on the fourth Tuesday of each month. Judi asked for input on the process? Should we develop some type of process outside of the Core Team for acting on work team items/questions?

Action: Roxanne will add MCC proposal items to Thursday's (Sept. 23) OP's meeting agenda.

b. Meetings for determining new activities-I/O diagrams

- No additional discussion.

3. CPAR Report

- This item will be addressed at the next Core Team meeting.

4. Old Business

- No report.

5. New Business

a. ISO 14001 – new requirements

- Judi asked if we should keep ISO language in the procedures.

Action: Keep the ISO language in procedures as point of reference for how we work. Geri to move ISO language in procedures to the last page under “Reference” and reference the date 2004.

b. Other procedures/documents....do we keep them, if so we need to review.

- ISO 14001 had other procedures included that we are not required to have through the Iowa EMS. These are procedures that are referenced in some of the EMS procedures. Do we want to keep the following procedures?

1. Control of records procedure
2. Objective and targets procedure
3. Emergency preparedness and response procedure
4. Equipment calibration procedure

- Jeff suggested that whoever is the most responsible for document control make that decision. *Note: Jeff would like to keep Equipment Calibration Procedure.*

Action: Judi will forward the procedures to appropriate people for review and decision.

c. Incorporating EMS into performance reviews -

Roxanne reported that IMWCA recommended that health and safety be included in the performance reviews. No decision made to include in performance reviews at this time.

Action: Judi will provide general EMS verbiage to the Core Team to review.

Action: Geri will include an additional sheet dedicated to EMS, on the performance review form located on the Share Drive.

Note: It will be the decision of each manager/supervisor to determine the EMS rating on performance reviews for individuals they supervise.

Action: EMS general verbiage needs to be included in Job descriptions. Responsible person: Tom will work with DMWW.

d. West IDNR inspection

- This item will be addressed at the next Core Team meeting.

e. CPAR form

- No additional report.

Next Meetings and Location:

- Need to determine today – lunch meeting?
 - Next Meeting: Tuesday, October 12, from 10:00 am – Noon in the Board Room at Central Office
- Sept. 24th 9:00– GSP conference call
 - Going forward Judi will handle all GSP conference calls.

METRO WASTE AUTHORITY

MEETING NOTES 10-12-10

Attendance: Judi Mendenhall, Paul Nemmers, Geri Crawford, Jeff Dworek, Sara Kurovski, Reo Menning, Tom Hadden

.....

1. EMS Pilot Program Implementation

a. Management Review – Discussion

- Judi reported we have to cover what is in the procedure and what is required by the Iowa EMS. All items were integrated below for review by the Core Team. Judi changed the Management Review Procedure to actually fit what we do now in relation to Iowa EMS. versus what we did previously. The Management Review Procedure was reviewed by the Core Team and all changes were accepted. Core Team member signatures were attained on the Official Document Approval form for the EMSP-Management Review Procedure.

i. Review Policy for Adequacy

- The policy was reviewed for any changes. No changes were made to the Environmental Policy.

ii. Review List of Significant Aspect and Impacts/Changing circumstances, including development in legal and other requirements related to environmental aspects

- Review was completed. Due to the fact we had to identify our Objectives and Targets before we developed the significant aspects and impacts, the current significant aspects and impacts list is not applicable to this round of the EMS Pilot process.

iii. Objective and Targets and EMP's status/results – six focus areas for Iowa EMS

- Core Team members gave status reports on Objectives and Targets they were responsible for.

1. Water Quality/Yard Waste Management: Objective: Control 100% of the MCC compost pad runoff by employing best management practices - Jeff Dworek

- ✓ Construction is on going. Once completed we will evaluate whether we are collecting the 100% runoff or not. We will look at this from the criteria of whether or not to use it for scrubs or for composting. The metric is surface area – we don't have stormwater control on front pad, anything from scale area to the west.

2. Water Quality Improvement: Objective: Add stormwater controls to reduce erosion and stabilize stream banks along the section of Camp Creek within the MPE property – Tom Hadden
 - ✓ Due to flooding this last year, there has been no work done to the stream banks area. The work team is in process of evaluating options. The metric is lineal foot of improvement to erosion around storm bank.
3. Yard Waste Management: Objective: Determine whether commercial organic food waste or residential food waste composting is feasible economically and logistically – Tom Hadden
 - ✓ In progress. We are gearing up with Barker Lemar for a commercial organics end product Pilot program, and are in the process of evaluating program details for implementation.
4. Yard Waste Management: Objective: Implement organic waste composting program if feasible – Tom Hadden
 - ✓ Objective completed. We are accepting 100 pounds of organic wastes per week from a commercial vendor.
5. Hazardous Waste Disposal/Collection: Objective: Increase western suburb participation in household hazardous waste drop-off by 20% - Judi Mendenhall
 - ✓ Objective completed. We are currently at 25%; we went from 1718 to 2142 residents. One last event is scheduled in Clive.
6. Environmental Education/Hazardous Waste Disposal/Collection: Objective: Increase the number of residents/businesses educated about hazardous waste through presentations by 40% - Judi Mendenhall
 - ✓ Objective completed. We are at 149%.
7. Greenhouse Gas Reduction: Objective: Establish a baseline of Greenhouse Gas Emissions for MWA facilities within the MWA fenceline – Sara Kurovski
 - ✓ Waiting for the DNR and the Committee to finalize the spreadsheet and which items to enter. Once this is finalized, we will develop a report to create our baseline. A meeting is scheduled in November.
8. Recycling: Objective: Promote business recycling by developing programs or models for small to mid-size businesses – Reo Menning
 - ✓ The deadline has been changed in Intellex to December 31, 2010. We are in the process of finding models. The goal is to have a model eventually available through our website.
9. Recycling/Environmental Education: Objective: Partner with the Iowa Grocery Industry Association and Keep Iowa Beautiful to promote the use of reusable bags, and increase plastic bag recycling by 5% - Reo Menning
 - ✓ The Build with Bags Program is in progress. We are tracking to see whether we are able to promote the use of reusable bags and increase

plastic bag recycling by 5%. Preliminary information received from one grocer who is participating in the Build with Bags Program indicates that they have seen their plastic bag recycling volume double.

10. Recycling: Objective: Recycle 3000 tons of shingles – Jeff Dworek
 - ✓ Questionable if we are going to be able to reach the 3000 tons by December 2010. The significant impact is that we are now considering what is going to R2R. The grind at MPE totaled 1147 tons. Numbers are being tracked for the material that is piled but not processed yet at MPE. It was reported we may have close to 1000 tons at MPW and 100 tons at MPE that has not been processed. We may have around 2500 tons, and if the weather holds we'll be close to 3000 tons by December. Grinds have been successful, and we'll be able to quantify the final number.

11. Greenhouse Gas Reduction: Objective: Reduce energy consumption of lighting at MWA Central Office by 4,000 kw/hrs – Geri Crawford
 - ✓ Objective completed. This was a lighting efficiency project that included light replacement in workroom 2, desk task lighting, and daylight control systems in outer offices. Metrics are being tracked.

12. Water Quality: Objective: Reduce water consumption at MWA Central Offices by 111,000 gallons per year - Geri Crawford
 - ✓ Objective completed. Dual flush valves were installed in all restrooms on all three levels of building. Metrics are being tracked.

13. Environmental Education: Objective: Improve educational value of landfill tours by incorporating an observation deck equipped with educational exhibit – Sara Kurovski
 - ✓ Objective completed.

14. Water Quality Improvement, Greenhouse Gas Reduction, Yard Waste Management, Hazardous Waste Disposal/Collection, Recycling: Objective: Implement a tracking system for ensuring compliance with environmental, health and safety regulations – Sara Kurovski
 - ✓ Objective completed.

15. – 19. Water Quality Improvement, Greenhouse Gas Reduction, Yard Waste Management, Hazardous Waste Disposal/Collection, Recycling, Environmental Education: Objective: Establish work teams at each facility to identify environmental areas for continuous improvement – Jeff Dworek; Judi Mendenhall; Geri Crawford
 - ✓ Objectives completed.

20. Recycling: Objective: Establish uniform drop-off centers for recycling at MPE, MCC, and RCC – Jeff Dworek
 - ✓ This will be fully completed on sites with signs and labeling of containers by April 1, 2011.

21. Greenhouse Gas Reduction: Objective: Reduce energy consumption of heating and cooling system at 300 E. Locust building – Geri Crawford

- ✓ System Works completed a study and modeled the building at 300 E. Locust, identifying mechanical opportunities for cost savings. On July 23, 2010, System Works submitted a report to MWA and held a meeting reviewing opportunities for HVAC energy saving projects obtained from the model. Consensus of meeting was to move forward with new control system but would be dependent on rebate from Mid American Energy. Cost of project is between \$80,000 - \$85,000 with a payback of 3 to 4 years. A meeting is scheduled with System Works October 20 to review pricing of items. Next step will be to submit plan to Nexant for evaluation and approval. Upon Nexant's approval for rebate program, Nexant will submit paperwork to Mid American Energy for energy rebate.

It is noted, that Judi reported during our internal audit it was discussed that when something is being monitored for an Objective and Target we need to continue to monitor it even if the project has been completed to make sure it stays effective.

- iv. Monitoring and Measurement –metrics data
 - Judi asked Core Team members to recheck their Objectives and Targets in Intelex and make sure metrics are captured.
 - Metrics were covered in the objectives and targets.
- v. Key Resources – any additional needs for EMS?
 - Set aside funds for EMS projects within the budget.
- vi. Communications techniques and responses, including external complaints/Training
 - More room for improving communications with Board. Give Board concrete examples of EMS successes - give Board leverage to demonstrate the value.
 - What's the timeframe for communicating to League of Cities to get them interested in the EMS. Time frame discussed was beginning of 2011.
 - Landfill split-shift meetings – Conferencing is not working well at MCC. Tom will make MPW landfill meetings in person, as much as he can. MCC will send a representative to landfill split-shift meetings and report back to personnel at their facility.
 - No additional training needs at this time.
 - External complaints – none.
 - Continue with EMS/Health Safety items (trinkets) for distribution to employees.
 - Quarterly, display posters at all facilities.
- vii. Internal audit process and results
 - Covered in last EMS Core Team meeting, September 21.
 - There were no "Findings". No CPAR'S were generated from audit.

Opportunities for improvement-determine responsible person(s)

- Covered in last EMS Core Team meeting, September 21.

viii. Results from Compliance Audits – **Sara, Jeff, Judi**

Compliance audits pertain to engineer inspections, NOV's, etc.

- Semi-annual inspections conducted at MTS, MPE, MCC, MPW
MPW has a few items to be worked on. **Action:** Sara Kurovski will email the summary version of the report to Core Team.
- We have to update the storm water plan for MCC.
- MTS did not have the updated version of our operating permit – Not the permit we receive from DNR but all of our details/ application that we submit to the DNR. This has been rectified; the DNR has the new version.
- Once construction is completed at MCC, Sara will update the storm water plan to ensure it's applicable, and update the contacts in the plan.
- An official DNR inspection was conducted at MPW this summer.
- We did not have a DNR inspection at MPE, except for verification of the liner for the new cell.
- The item of note from MPW was how we were covering the waste and wasn't up to DNR standards. We were told we had to cover the waste completely by Friday and submit photos, which was completed. We did not receive an NOV.
- We had an air quality inspection; everything was in order.
- The RCC did not have any DNR inspection in 2010
- The RCC engineer inspection was completed in 2009. This is not applicable since the inspection was completed last year.
- We'll be scheduling our internal compliance recordkeeping audit to ensure we have all the proper permits and are keeping all the appropriate records.

Jeff reported that all reports are kept in the official record files at the MPE landfill.

ix. Status of corrective and preventative actions

Sara Kurovski reviewed current CPAR's with Core Team.

- Highside of berm above well 26, water is not draining and collecting from 3 directions – Action: Mike F. to talk with Alan Vry on status
- Ponding water, even on dry days, near well 114 – Action: Mike F. to talk with Alan Vry on Status
- Sediment build-up in stormwater ditches between Phase II and the road – Action: Closed 09-15-10; Ryan took care of problem.
- Rain and weather data not being tracked – Action: Referred to Barker Lemar
 - ✓ Jeff reported we received the proposal from Barker Lemar and it has been approved. A new rain gauge will be installed; we are going to a new method of collecting rain data.
- Leachate overflow problem at manhole near the aerated lagoon – Action: As part of the scope of work, this will be brought to the board. It also

entails the redesign of the leachate inlet manhole that overflowed which will correct the situation.

- Transfer from work order log #572, mudslide on west side of Phase 1. Wait for direction from design engineer – Action: Waiting on a design from HDR for repair. There was a problem with the location of where the failures were.
- Stormwater ditches have sediment buildup – Action to be determined.

Suggestion: Jeff suggested for future management reviews the process be as follows: For the last year we had x number of CPAR's, x number have been taken care of, and here are the x number of outstanding one's.

Judi reported that a reminder will be sent to Core Team for quarterly review of CPAR's.

Jeff reported he is in the process of evaluating the current CPAR procedure. On Thursday, October 14, a reminder to landfill employees to fill out CPAR's will be discussed. Eventually the old system will be converted into Intelx. The current system is a paper system, where the CPAR's are getting forwarded to the Operations Manager. Because of his heavy workload the items were getting completed but the feedback was not getting back to Roxanne through the system stating that they were completed. CPAR's are reviewed every other week. The process is being cleaned up for better reporting. Roxanne is to receive all CPAR's from all facilities for data entry.

x. Positive/Negative EMS results/Recommendations for Improvement

Positives:

- It brings up communication between the front-line staff and management.
- It brings to the forefront environmental issues that we may not have caught.
- Having continuous work teams in place at each of our facilities to address EMS improvements and operational improvements.

Negatives:

- Takes up a lot of time.
- Challenge of trying to learn both EMS system and Intelx system at same time.

Improvements:

- Incorporate EMS into our business plan and budgeting process.
- Staff to continue learning Intelx system.
- Determine modules we want to use and not use. Sooner is better.

xi. EMS goals for next year

- Build EMS into strategic business plan and budget.
- Continue communications through different avenues.
- Set an Objective to include MPW in our facilities fence line.
- Establish MPW work team.

- Metro Park West Planning Area – encourage them about pursuing/applying for EMS.
- xii. MWA’s environmental performance
- No further report.
- xiii. Follow up action to previous Management Reviews
- This is our first management review. Nothing further to report.
- b. GSP conference call – **Judi**
- Judi asked about integrating the “positive” aspects into our significant aspects. Currently positives fall to the bottom. Suggestion was to continue to do it the same way but note in our procedure that’s what will happen, then we will have to force those “positives” to the top if we want to continue to work on them.
- c. Rank Activities on Aspect and Impact list – **all**
- Core Team reviewed and ranked two thirds of the aspects and impacts list and made minor changes.
 - The final aspects and impacts will be reviewed and ranked during the next Core Team meeting on October 26. Leslie Goldsmith will attend and observe the process.
2. Work Team Reports
- a. MCC, MTS, MPE, RCC, CO activity reviews
- Judi reported that activities, aspects and impacts, were reviewed by all facilities within the EMS fenceline.
3. CPAR Report -
- No further report – refer to above item (ix) for discussion points.
4. Old Business
- a. Intelelex
- No report.
5. New Business
- a. West IDNR inspection
- This was discussed above - Compliance Audit.

Next Meetings and Location:

- Core Team Meeting, October 26, 2010, 10:00 am (complete ranking of Aspects and Impacts list). Leslie Goldsmith to attend.
- October 21, 2010 Qtly Meeting Park Farm Winery – Brankston
 - ✓ Core Team Members to get back to Judi on attending quarterly meeting.
- Core Team Meeting, November 2, 2010, 11:30 am – 1:30 pm (Objective and Targets/working lunch)

Appendix B

EMS Templates



Gap Analysis Check List

1. Does your organization have an environmental policy statement?
 Yes Comments:
 No
 Partial

2. Does your environmental policy statement include the following:
 - a. A statement of intentions and principles in relation to your overall environmental performance?
 - b. A framework for action and setting environmental objectives and targets?
 - c. A commitment to continual improvement? Yes Comments:
 No
 Partial

3. Has the policy been communicated to staff?
 Yes Comments:
 No
 Partial

4. Has your organization identified and evaluated the actual or potential impacts to the environment, whether adverse or beneficial, from its activities services and facilities?
 Yes Comments:
 No
 Partial

5. Have your significant impacts to the environment been identified? Are they documented?
 Yes Comments:
 No
 Partial

6. Have the legal requirements for your operations and facilities, including the following been identified:
 - a. Relevant environmental laws?
 - b. Applicable environmental regulations and permits?
 - c. Worker health and safety regulations? Yes Comments:
 No
 Partial

7. Are the legal and other requirements documented?

- Yes Comments:
- No
- Partial

8. Is there a process for tracking any changes to the legal and other requirements described above?

- Yes Comments:
- No
- Partial

9. Have objectives been established that are relevant to the following:

- a. The environmental policy statement?
- b. Environmental issues and impacts previously identified?
- c. Views of interested parties?
- d. Other applicable factors?

- Yes Comments:
- No
- Partial

10. Have detailed and quantifiable targets been established to achieve the stated objectives?

- Yes Comments:
- No
- Partial

11. Has an action plan defining actions necessary to achieve the objectives and targets been established?

- Yes Comments:
- No
- Partial

12. Does the action plan identify key resources, including fiscal matters, specific skills, facilities, partners, or other additional needs, necessary to carry out and complete the plan?

- Yes Comments:
- No
- Partial

13. Does the action plan identify a timeline for completion of each described step?

- Yes Comments:
- No
- Partial

14. Does the action plan identify a schedule for periodically reviewing and updating, as conditions dictate, the objectives and targets?

- Yes Comments:
- No

15. Has a process been established for internal communication with individuals, organizations, and entities that have a role or responsibility within the action plan?

- Yes Comments:
- No
- Partial

16. Has a process been established to ensure that all responsible parties are familiar with the EMS and have the training necessary to capably execute their roles?

- Yes Comments:
- No
- Partial

17. Has a process for external communication been established to reach out to those groups and organizations having an interest, stake, or role in your ongoing EMS program?

- Yes Comments:
- No
- Partial

18. Have procedures been established and implemented for receiving and responding to relevant communication from external interested parties?

- Yes Comments:
- No
- Partial

19. Has a documented process for monitoring key activities and measuring performance related to specific environmental objectives and targets been established?

- Yes Comments:
- No
- Partial

20. Has a documented procedure for assessing the function of each EMS component and its effectiveness based on performance measurements been established?

- Yes Comments:
- No
- Partial

21. Has an assessment been completed?

- Yes Comments:
- No
- Partial

22. Has your organization defined an approach to reevaluating and modifying its EMS with the purpose of improving and strengthening it on an ongoing basis?

- Yes Comments:
- No
- Partial

23. Does this approach address areas where the EMS has met, exceeded, or failed to meet expectations?

- Yes Comments:
- No
- Partial

24. Does this approach identify root causes of those outcomes and develop additional goals and activities appropriate to each?

- Yes Comments:
- No
- Partial



Environmental Management System
Pilot Program



Name of Facility/Program/Location

Activity	Impact	Criteria #1	Criteria #2	Criteria #3	Criteria #4	Total Score	Significant (Y/N?)



**Environmental Management System
Pilot Program**



Name of Facility/Program/Location

Regulation	Description	Agency	Information Location	Responsible Party	Review Frequency	Permit #
40 CFR 112.3	<i>Spill Prevention Control and Countermeasures Plan development and implementation for facilities storing over 1,320 gallons of petroleum product</i>	USEPA	<i>Central Files at Landfill</i>	Laura	<i>Annual or as storage capacity changes</i>	N/A

Facility Name										
Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other	
<i>Reduce Greenhouse Gas Emissions</i>	<i>5% per year until 2015</i>	<i>tons of CO2 equivalents</i>			X					
Action Plan	Deadline	Responsibility								
1 Conduct Greenhouse Gas Inventory and make a Report available to the public (e.g. website)	1/1/2011	Joe								
2 Develop Climate Action Plan and Gain Approval by Board	1/1/2012	Allison								
3 Identify and implement two key strategies to reduce greenhouse gas emissions by 5% per year	7/1/2014	Anthony								

Facility Name										
Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other	
Action Plan	Deadline	Responsibility								
1										
2										
3										

Facility Name										
Objective	Target	Metric	Yard Waste	Water Quality	Greenhouse Gas Emissions	Recycling Services	Household Hazardous	Environmental Education	Other	
Action Plan	Deadline	Responsibility								
1										
2										
3										

Internal EMS Audit Checklist

Date: _____ Lead Auditor: _____

Facility: _____

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Comm- endable
1 Environmental Policy Statement							
Has an Environmental Policy Statement been adopted by management?							
Does the policy provide the following:							
(1) commitment to environmental performance?							
(2) framework for action?							
(3) framework for setting objectives and targets?							
(4) commitment to continual improvement?							
Is it visible and communicated to staff?							
Are staff aware of the Policy?							

Internal EMS Audit Checklist

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Commendable
2 Environmental Impacts, including Significance							
Does the Environmental Impacts list adequately represent the activities and associated environmental impacts of the facility?							
Is there a documented process for the identification and updating of impacts and significant impacts?							
Were significant impacts identified and do they adequately reflect the operations?							
Are significant impacts managed appropriately and effectively through the EMS?							
3 Legal and Other Requirements							
Has a legal and other requirements list been developed and does the list include relevant environmental laws, regulations and permits?							
Does the list include worker health and safety regulations?							
Is there a documented process for reviewing and updating legal and other requirements?							
Were there any changes to operations or changes to laws or regulations which affect the EMS?							
Are there any legal and other gaps or areas that need to be addressed?							

Internal EMS Audit Checklist

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Comm- endable
4 Objectives and Targets							
Have objectives and targets been set and are they consistent with the EMS and Policy?							
Were all of the significant impacts addressed including the Iowa 6 Plan Components?							
Were the targets detailed and quantifiable?							
Were views of interested parties taken into consideration?							
Is the organization making reasonable progress in achieving the Objectives and Targets and documenting results?							
5 Action Plan							
Does each Objective and Target have an associated Action Plan?							
Were responsibilities, tasks and timelines identified?							
Is there a process for tracking, updating, reviewing and reporting on the Action Plans?							

Internal EMS Audit Checklist

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Comm- endable
6 Key Resources and Additional Needs							
Were key resources and additional needs identified?							
Has the organization identified EMS and associated environmental roles and responsibilities?							
Is there a designated EMR and EMS Core Team?							
Are employees aware of their EMS and environmental role and responsibilities?							
7 Communication/Training/Awareness							
Has the organization identified EMS and environmental training by job title or description? Is there a documented process?							
Does the organization provide and track training?							
Are employees attending the designated training classes as required?							
Are employees utilizing the information provided in the training classes?							
Is there a process established for internal and external communication of the EMS?							

Internal EMS Audit Checklist

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Commendable
Are all employees within the fenceline familiar with the EMS?							
Is there a documented process for receiving and responding to questions/concerns regarding the EMS?							
Is the organization considering internal and external communication in the ongoing implementation of the EMS?							
8 Monitoring and Measurement							
Does the organization have a documented process for monitoring key activities and measuring performance of the objectives and targets?							
Are results available for review and are do they demonstrate improvements?							
Are the environmental improvements adequate given the nature and scope of the EMS?							

Internal EMS Audit Checklist

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Comm- endable
9 Assessment							
Does the organization have a documented process for assessment?							
Was an internal EMS audit/assessment conducted in the past 12 months and was it documented?							
Was compliance with Legal and Other requirements reviewed or is there an ongoing compliance assessment/audit process?							
10 Reevaluation and Modification							
Does the organization have a documented process for reevaluation and modification?							
Were the findings of the previous EMS audit documented and were root cause analyses conducted?							
Were corrective/preventative actions implemented as a result of the previous audit and were they effective?							
Were EMS procedures and processes reviewed and revised as necessary?							
Was the EMS reviewed with Senior Management at least once in the past 12 months?							
Were changes made to the EMS as a result of the Senior Management review?							



Environmental Management System Pilot Program



**<INSERT PILOT ORGANIZATION NAME>
INTERNAL EMS AUDIT**

<Insert details of who, what, when, where, why the audit was conducted.>



Internal EMS Audit Results Form

Scope/Facility:

Auditors:

Date:

Iowa EMS Element Number and Description	Audit Results/Findings			
	Description	Evidence	Finding(s)	Iowa EMS Reference
1 Environmental Policy Statement				
2 Environmental Impacts				
3 Legal and Other Requirements				
4 Objectives and Targets				
5 Action Plan				

Iowa EMS Element Number and Description		Audit Results/Findings		
Number	Description	Evidence	Finding(s)	Iowa EMS Reference
6.	Key Resources and Additional Needs			
7	Communication/Training/Awareness			
8	Monitoring and Measurement			
9	Assessment			
10	Reevaluation and Modification			