



Iowa Solid Waste Environmental Management Systems

# EMS Program Crash Course

February 19, 2020

SOLID WASTE Environmental Management System

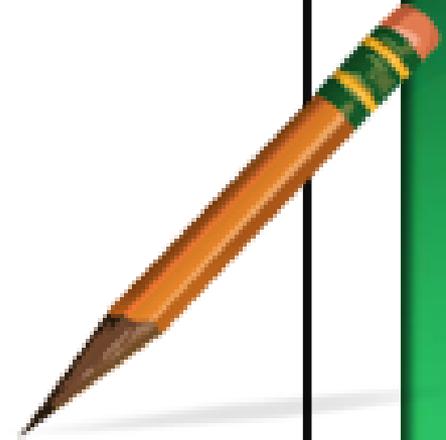
The logo for the Iowa Solid Waste Environmental Management System. It features a stylized outline of the state of Iowa. The top half is light blue and the bottom half is light green. The text "SOLID WASTE" is written vertically on the left side. The words "Environmental Management System" are written in a large, bold, sans-serif font across the center.

*Committed to Continuous Improvement*



# Agenda

- ❑ Introductions
- ❑ Background of EMS
- ❑ Basics of EMS
- ❑ EMS Program Details
- ❑ The 10 Elements of the Solid Waste EMS
- ❑ Success Stories and Challenges
- ❑ Conclusion



# The Background of EMS

- ⦿ Purpose--provide alternative to Comp Planning, way to improve environmental performance not measured by diversion rate
- ⦿ Forward-thinking approach to reducing environmental impacts across Iowa
- ⦿ Based on collaborative development
- ⦿ Modified from ISO 14001 standard

# The Background of EMS

- ◉ Legislation passed into law in 2008 – a voluntary alternative to Comprehensive Planning (Iowa Law 455J)
- ◉ Rule implementation in 2011 after Pilot Program (Iowa Rule IAC 567)
- ◉ 14 Participating Agencies to Date



Stakeholders, legislators and Department staff crafted the Iowa Solid Waste Environmental Management System legislation and rule

# The Basics of EMS

- Systematic Process for *Managing Environmental Risks* and *Continually Improving Environmental Performance*

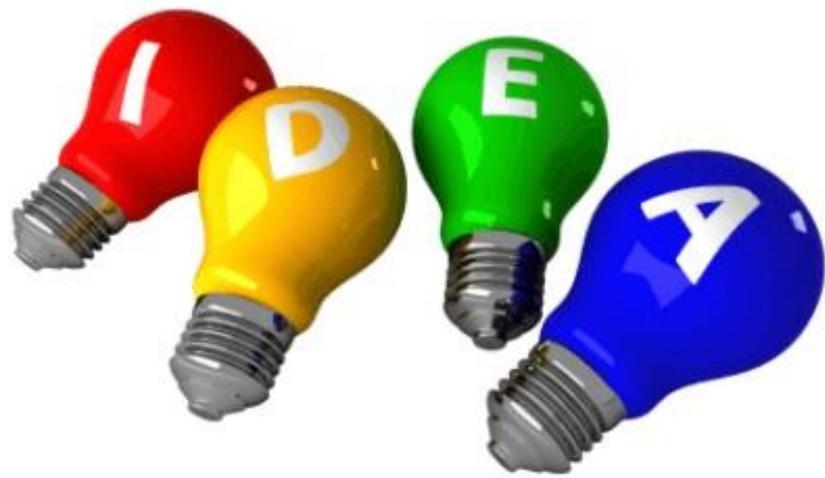


# What is an EMS?

- A Business System Applied to the Environmental Impacts of the Organization
- Includes Policies, Management Processes, Training and Procedures
- Not Exclusively Focused on Compliance Requirements
- Strives for Reviewing, Analyzing, Controlling and Reducing Impacts
- Requires Ongoing Implementation and Continuous Improvement



# What is an EMS?



## I dentify Risks

- Identify and rank environmental risks

## D evelop Controls

- Implement methods to minimize and control risks

## E stablish systems

- Policy, training, communication, documentation

## A ssess and update

- Review data, audits, change, continuous improvement

# EMS Benefits for Your Organization

- ⦿ Improved Environmental Compliance
- ⦿ Reduced Environmental Impacts
- ⦿ Clarity of Responsibilities and Expectations
- ⦿ Fewer “Fire Drills”
- ⦿ Cost Avoidance and Increased Efficiency
- ⦿ Increased Understanding and Awareness of Environmental Requirements and Impacts by Staff
- ⦿ Positive Recognition

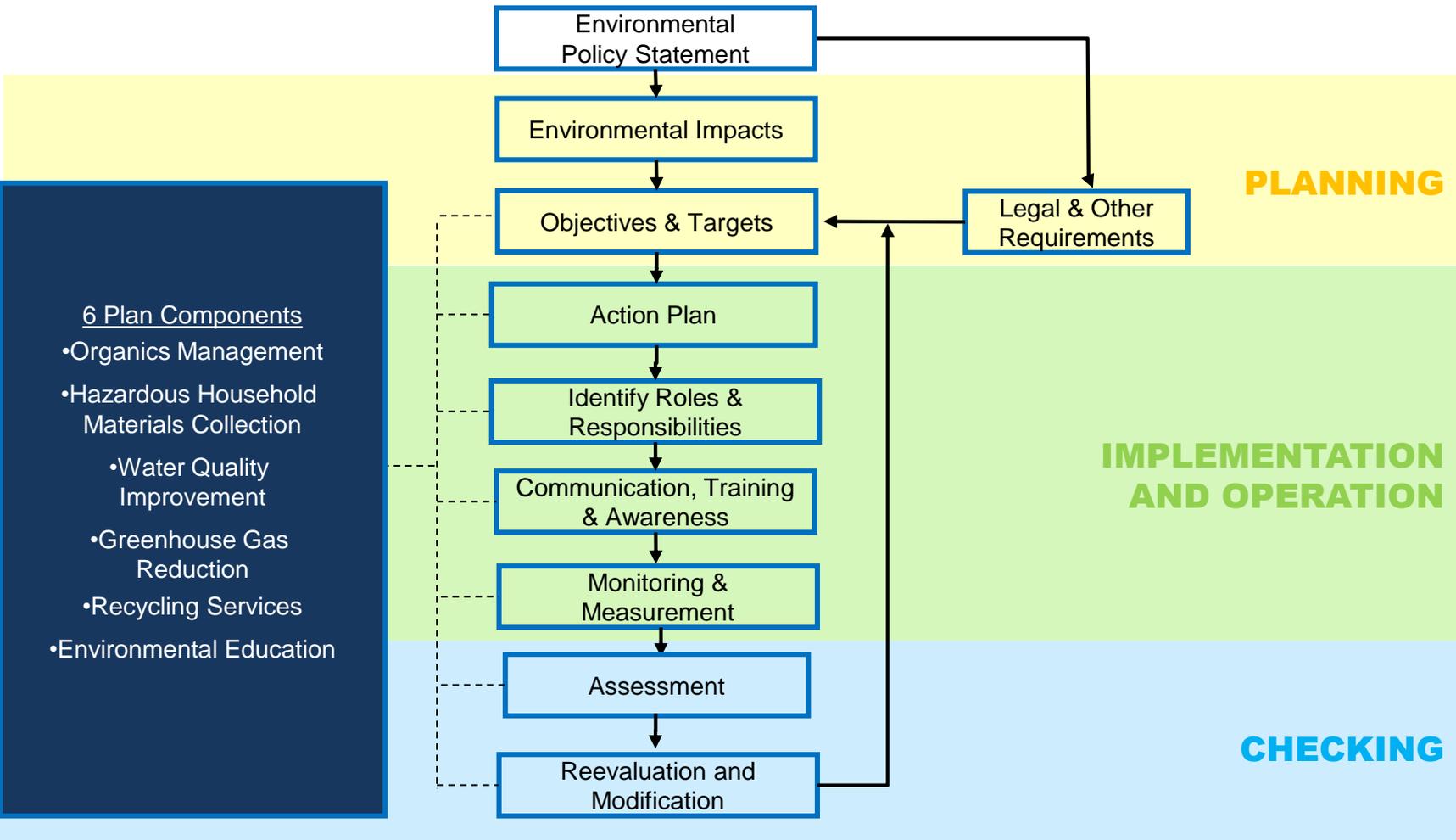


# EMS 10 Elements

- *Environmental Policy Statement*
- *Environmental Aspects and Impacts*
- *Legal and Other Requirements*
- *Objectives and Targets*
- *Action Plan*
- *Identify Roles and Responsibilities*
- *Communication/Training/Awareness*
- *Monitoring and Measurement*
- *Audit/Assessment*
- *Reevaluation and Modification*

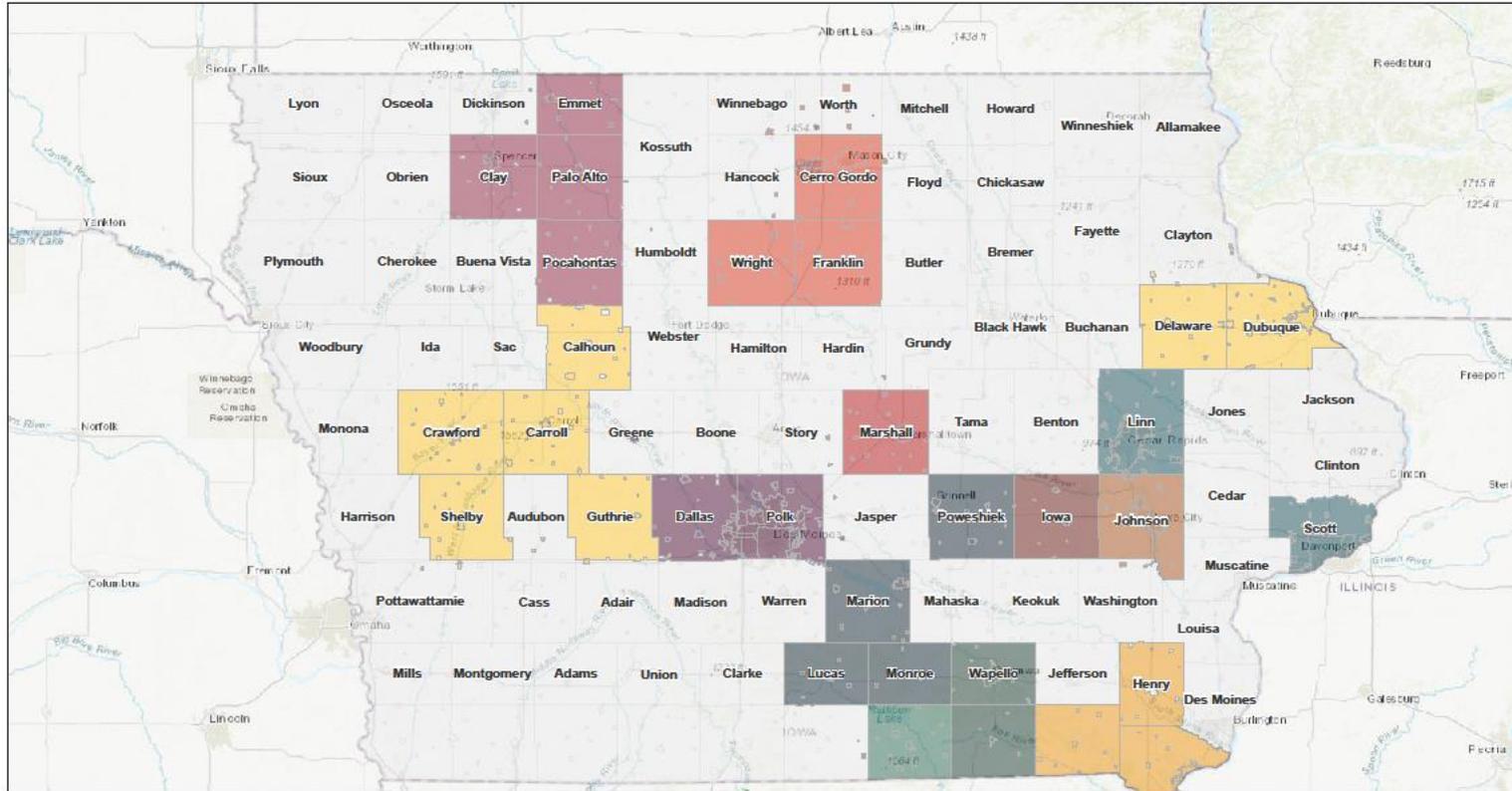


# Iowa Solid Waste EMS Framework



# **Solid Waste EMS Program Details**

# EMS Participants 2019-2020



6/3/2019, 11:04:09 AM

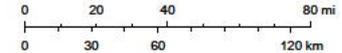
**Environmental Management System Participants**

- Cedar Rapids-Linn County Landfill Service Area
- Dubuque Metropolitan Area Solid Waste Agency
- Great River Regional Waste Authority
- Iowa City Landfill & Recycling Center
- Iowa County Regional Environmental Improvement Commission

- Landfill of North Iowa
- Marshall County Solid Waste Management Commission
- Metro Waste Authority
- Northern Plains Regional Planning Area
- Ottumwa/Wapello County Solid Waste Commission
- Rathbun Area Solid Waste Management Commission

- South Central Iowa Solid Waste Agency
- Waste Commission of Scott County
- West Central Iowa Solid Waste Management Association
- Other
- county

1:2,311,162



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox, OpenStreetMap contributors, and the GIS User Community

Web AppBuilder for ArcGIS  
Esri, HERE, Garmin, FAO, USGS, EPA, NPS |



**Gresham  
Smith**

# Solid Waste EMS Tiered Structure

## ⦿ Tier 1 EMS

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

## ⦿ Tier 2 EMS

- Participants after 2<sup>nd</sup> year (typically)
- EMS implementation phase
- Full EMS designation



# EMS Program Overview of Roles

- ◎ Guidelines from rule 567-IAC 111, and 10 EMS Elements
- ◎ *Role of DNR & EPC*
  - Oversight of Program Implementation
  - Provides Assistance and Program Oversight
  - Evaluates Overall EMS Implementation
- ◎ *Role of Participants*
  - Successfully Complete EMS Implementation
  - Share Ideas, Networking, Success Stories
- ◎ *Role of Gresham Smith*
  - Assistance, Coaching, Example Documents
  - Troubleshooting and Guidance



# EMS Program Annual Milestones

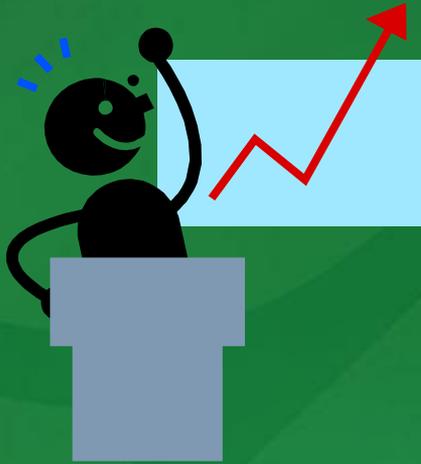
- ① Annual Report (due Sept. 1<sup>st</sup>)
- ① Grant Applications
  - Round 1 (Fall)
  - Round 2 (Spring)
- ① Events
  - Fall EMS Conference (November)
  - Summer EMS Workshop (July)



# Continuous Improvement for EMS Program

- ⦿ Periodic updates to EMS training and tools
- ⦿ Updated rule in 2016
- ⦿ Hosted EMS Program Improvement in 2019
- ⦿ Streamlined Annual Report submittal process
- ⦿ Improved Objectives and Targets guidelines
- ⦿ Revised Grant Application process





## Goal

Successfully Implement an  
Environmental Management System  
(EMS)

# “Successful Implementation”

- ◎ 10 Elements of the EMS are in Place and Functioning
  - Perfection is Not Expected!
  - Process of Continual Improvement is Implemented
- ◎ EMS is Providing Real and Measurable Environmental Improvements
  - With a Focus on the Six Plan Components

- **Organics Management**
- **Hazardous Household Materials Collection**
- **Water Quality Improvement**
- **Greenhouse Gas Reduction**
- **Recycling Services**
- **Environmental Education**

# New EMS Participants Plan

- ◎ DNR and Gresham Smith Will Coach Participants to Implement the 10 Elements of an EMS
  - Balance On-site and Web-based Training
- ◎ Components of the Plan
  - Kickoff Meeting
  - Webinar Trainings
  - On-Site Meetings
  - Annual Conferences (November)
  - Auditor Training
  - Monthly Conference Calls
  - Many Examples and Templates
  - Mentoring from Other Participant



# Iowa EMS Elements In Detail

# What is an EMS?



## I dentify Risks

- Identify and rank environmental risks

## D evelop Controls

- Implement methods to minimize and control risks

## E stablish systems

- Policy, training, communication, documentation

## A ssess and update

- Review data, audits, change, continuous improvement

# Environmental Policy

- ① Statement of organization's commitment to the environment
- ① Based on mission/vision
- ① Provides a framework for action
- ① Documented and approved by management
- ① Used to educate staff and the public



# IOWA CITY LANDFILL AND RECYCLING CENTER ENVIRONMENTAL POLICY STATEMENT

The Iowa City Landfill and Recycling Center is committed to providing the essential services necessary for the health, safety, and welfare of our employees, customers, and community in a manner that respects the environment and promotes sustainable measures.

Our objectives include:

- **Regulatory Compliance:** We will continually strive to meet all relevant environmental laws and regulations.
- **Education:** We will continue to build on and expand our educational opportunities in the community.
- **Sustainability:** We will take measures to reduce the environmental impact of our operational activities; maintaining responsible environmental, economic and social practices through environmental management and education.
- **Pollution Control:** We will minimize the effect our operations have on pollution of the environment.
- **Evaluation:** We will establish, measure and report objectives and targets annually.
- **Commitment:** We will remain committed to establishing environmentally friendly practices and to enhancing our existing facilities and operations in a sustainable manner.
- **Training:** We will train employees on environmental policies, rules and goals set forth in the EMS. We will communicate with and listen to the ideas and input of our staff to create an environment where respect and open dialogue between staff members is promoted and appreciated.

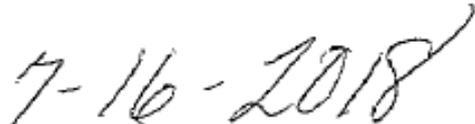


## Regional Environmental Improvement Commission (REIC) of Iowa County Environmental Policy

The Regional Environmental Improvement Commission (REIC) of Iowa County is committed to improving solid waste management and environmental stewardship in the REIC service area. Our commitment will be demonstrated through regulatory compliance and continual improvement that is guided by an Environmental Management System (EMS). REIC's EMS provides a framework for pursuing environmental objectives and targets for its operations, services, and programs. REIC's EMS will be maintained by the Core Team, and progress will be measured and reported annually.

This environmental policy is approved by the Regional Environmental Improvement Commission (REIC) of Iowa County. All future edits to this policy must be reviewed and approved by the Commission.

  
John Gahring, REIC Chairperson



Date



# Environmental Aspects and Impacts

- ⦿ Identifies activities and services (i.e., aspects) that have an impact on the environment
- ⦿ Evaluates causes (aspects) and effects (impacts)
- ⦿ Helps an organization prioritize causes and effects
- ⦿ Highest priorities are “*significant*”
- ⦿ Goals are set around significant aspects and impacts
- ⦿ Intended to improve environmental outcomes

# Environmental Aspects and Impacts Exercise

- ⦿ Scenario 1– Add RCC for HHM collection
- ⦿ Scenario 2—Stop accepting brush and limbs at landfill because City opened a composting facility
- ⦿ Scenario 3– Begin a shingle recycling program
- ⦿ Scenario 4– Construct a leachate recycling system

How do these changes affect your aspects and impacts?  
Do you need to add a new aspect?  
Does your scoring change?

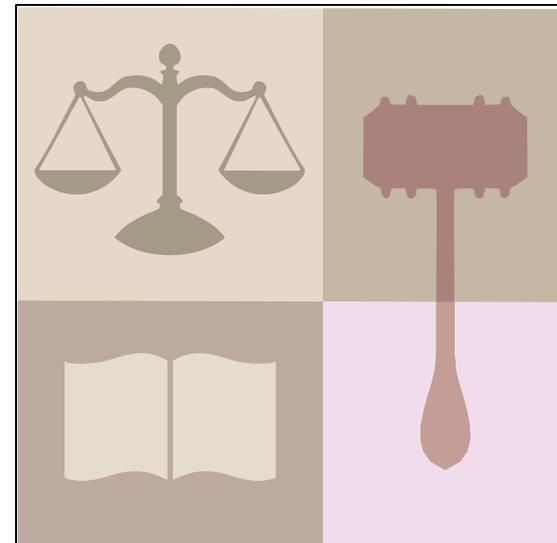
# Environmental Aspects and Impacts Exercise

Debrief

# Legal and Other Requirements

- ⦿ Identification of regulatory (EHS) requirements
- ⦿ Identification of voluntary requirements
- ⦿ Process for tracking, reviewing, and updating requirements
- ⦿ Provides clarity and responsibility
- ⦿ Assists with transitions

Note: DNR has an example list as a starting point



# Objectives and Targets and Action Plans

- Established goals to reduce/increase environmental outcomes
- Relevant to the policy and significant aspects and impacts
- All six plan components must be addressed
- Need to be “S.M.A.R.T.”
- Action plans serve as the roadmaps



# Definitions

- ⦿ Objective = overall goal, environmental change
- ⦿ Target = measurable performance (amount, deadline, etc.)
- ⦿ Metric = unit of measure

Note: Refer to Objectives/Targets/Metrics Checklist



# Objectives– Best Practices

- ① Tied to 6 Plan Component Areas
- ① Intended environmental change, desired future state
- ① Includes action verbs
- ① Does not include target or metric

# Objectives and Targets - Examples

- ① Objective => Improved disposal of HHM in the service area
  - Target => Increase HHM collection by 5% in CY2020 compared to CY2019
  - Metric => Tons of HHM
  
- ① Objective => Decrease environmental impacts from landfill GHG emissions
  - Target => Reduce GHG emissions by 7% in FY19-20 compared to FY18-19
  - Metric => Tons of CO<sub>2</sub>e

# Objectives and Targets and Action Plans Exercise

- ① Scenario 1– Add RCC for HHM collection
- ① Scenario 2—Stop accepting brush and limbs at landfill because City opened a composting facility
- ① Scenario 3– Begin a shingle recycling program
- ① Scenario 4– Construct a leachate recycling system

Develop an objective and target for the scenario.  
What is your target quantity and deadline?  
How will you measure success?

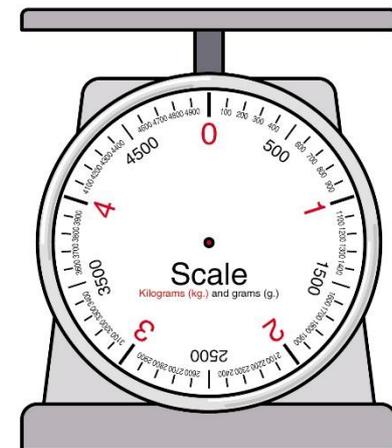
# Objectives and Targets and Action Plans Exercise

Debrief

# Monitoring and Measurement

- Identifies key metrics
- Evaluates progress on goals
- Helps demonstrate success of the EMS
- Helps identify struggles/challenges
- Must be tracked and documented

*“You can't manage what you can't measure.”  
-Peter Drucker*



# Roles and Responsibilities

- ⦿ Identifies individuals responsible for developing, implementing, and managing the EMS
- ⦿ Must be documented and communicated
- ⦿ Provides clarity
- ⦿ Assists with transitions

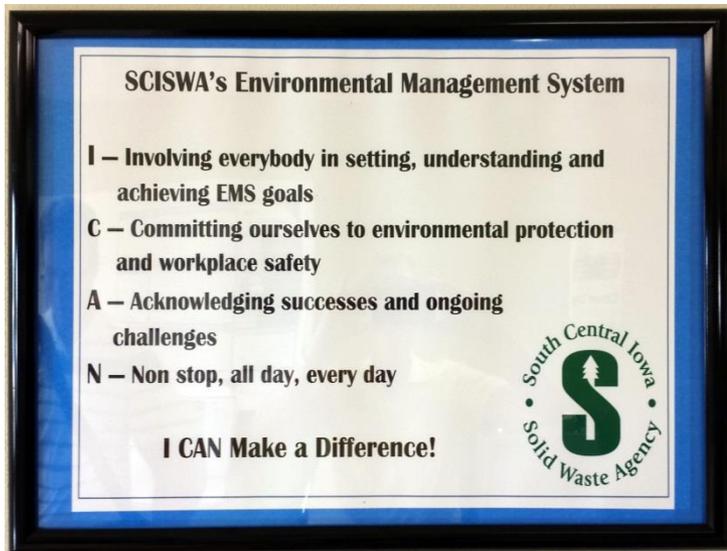


# Communication/Training/Awareness

- Helps create buy-in
- All methods (e.g., face-to-face meetings, emails, newsletters, phone calls, posters, etc.) are welcome and, typically, necessary
- Covers both internal and external communication



# Printed Media



# Continuous Improvement

Through the use of our EMS, we will seek out ways to continually improve our environmental performance.



Waste  
Commission  
of Scott County

Learn more about our Environmental Health & Safety Policy and Environmental Management System at [www.wastecom.com/ems](http://www.wastecom.com/ems)



Gresham  
Smith



## 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

# Internal Newsletter

ISSUE

8

August  
2013

BUILDING  
INDUSTRY PRIDE  
THROUGH  
UNDERSTANDING

## Waste Words

### EMS External Audit

The Department of Natural Resources will be auditing our EMS on August 22. It begins at Metro Park East landfill and could include other facilities. That means it's time to brush up on your EMS knowledge. Questions you could be asked:

- What is MWA's Environmental Policy? IMPACT is the short form of our environmental policy. You can find what each letter represents in the pocket-size EMS notebook or on the posters in the break room of each facility.

### this issue

New Transfer Trailer Wraps	P.2	EMS Continuous	P.3
MPE Gets a Leachate Evaporator	P.2	Employee Rewards	P.3
EMS Internal Audit	P.2	Public Landfill Tours	P.3
New Employee Highlights	P.2	Celebrations, Calendar, Tonnage	P.4

### ELC Expands Summer Learning Camps -- by Carla Rivas

Metro Waste Authority hosted two week-long summer camps at the Environmental Learning Center (ELC) where students and teachers traded their classrooms for the outdoors to study field ecology. Drake University's Dr. Keith Summerville led participants through a series of lessons from testing Camp Creek's water quality to identifying native plant and animal species indigenous to the Learning Center.

This year (the fourth summer for students), participation expanded beyond Southeast Polk and Prairie City-Monroe school districts to include students from the "I Have a Dream" Foundation. The foundation works with



# Bulletin Boards



**County of Summit  
Department of Sanitary Sewer Services**

**Environmental Policy**

The Department of Sanitary Sewer Services' mission is to protect public health, contribute to a high standard of living, and provide a high level of consumer confidence. The Department is committed to quality service and fiscal responsibility. DSSS is committed to protecting the environment, and provisioning the collection, conveyance, and treatment of wastewater on behalf of customers in the sewer district. This environmental policy forms the foundation of the Department's environmental stewardship commitment.

To minimize environmental impacts DSSS shall:

- Comply with laws, regulations, and other requirements to which DSSS subscribes, which relate to its environmental aspects;
- Prevent pollution through the identification and implementation of best management practices;
- Continually work to conserve resources through waste prevention, reduction, reuse, and recycling;
- Provide employees the resources required to practice environmental stewardship in their daily roles, and heighten their awareness of environmental issues through the communication of this policy, training and written guidance on management and work practices;
- Continually improve environmental performance through proactive environmental management and routine assessment of our performance; and
- Provide a framework to utilize an environmental management system for operations.



# Websites

<https://www.ottumwarecycles.com>

**We want to hear from you**

?

**ASK JANICE**



**Do you have a question?**  
We are here to help you!

**Ask Janice**

# Social Media



**West Central Iowa Solid Waste**  
Yesterday at 12:03 PM · 🌐

Technology needs recycling too! We're constantly upgrading or replacing to the next best thing, or the newest and latest. But what happens to the old tech?! We recycle! Cost of recycling any size monitors, TV's, or laptop's is \$10.00 per item from either businesses or residents. Printers, fax machines, stereo equipment, VCR's, hard drives, copiers, keyboards, mouse and the cables are free.

**West Central Iowa Solid Waste**  
Defining Environmental Services... Together

Like Comment Share

**Waste Commission of Scott County**  
June 13 at 8:53 PM · 🌐

Plastic bags are plastic so they must be recyclable, right? They are, but not at the curb because they'll damage recycling equipment. Return them to retail stores.

16 1 Comment 6 Shares

**South Central Iowa Solid Waste Agency** added an event.  
June 4 at 2:32 PM · 🌐

**Flammable TOXIC Corrosive Poison**

**Drop Off Your Household Hazardous Waste!**

SAT, JUL 13 AT 9 AM CDT  
**Grinnell Household Hazardous Waste Collection**

Interested

Home Like Comment Share

**iowadnr** • Follow

**iowadnr** Anyone else have that Monday feeling? 🐿️ Jerry Nordstrum

Image: squirrel sprawled out on a tree branch

7w

**iowadnr** #IowaDNR

348 likes

APRIL 29

Add a comment... Post

# Press Releases



## Her perfect summer job: Keeping tabs on Mount Trashmore

Dick Hakes, Taking Liberties Published 5:46 p.m. CT June 14, 2019

CONNECT TWEET LINKEDIN COMMENT EMAIL MORE

Friends were shocked when Emma Nelson of Iowa City told them her summer job.



As a student of environment-related projects, Emma Nelson's summer internship at Mount Trashmore in Cedar Rapids is a good fit. (Photo: Dick Hakes/Special to the Press-Citizen)

She would be processing visitors to Mount Trashmore, the massive 60-acre, 140-foot-tall pile of refuse just south of downtown Cedar Rapids.

"It's the perfect job for me," Nelson told me last Saturday as she checked in a large

LV IOWA CITY CEDAR RAPIDS

THE LATEST EVENTS DINING ABOUT SUBSCRIBE

## Curbside collection of compostable waste in Iowa City may be delayed

POSTED ON MAY 29, 2019 BY PAUL BRENNAN

f t 49 Shares



New carts for organic waste in Iowa City. — photo courtesy of the City of Iowa City

Curbside collection of compostable waste in Iowa City is running behind schedule this week, due to the Memorial Day holiday and "high usage of yard waste and organics carts by curbside customers," the Iowa City Division of Resource Management said in a [press release](#) on Wednesday. The city is asking customers to leave their yellow-lid organic waste carts at the curb until crews empty it.

Collection may occur one or two days after the normally scheduled day.

# Logos



# Communication/ Training / Awareness Exercise

Develop a communication initiative for your organization.

What are the important messages / key content?

What media or method(s) would be most effective?

What kind of timeline is needed?

Does this seem reasonable for your organization's budget?

Note: consider the target audience(s) and their needs.



# Communication/ Training / Awareness Exercise



Identify Audiences

Identify Tools and Formats by Audience

Identify Process for Receiving and Responding to Inquiries

Launch Communication

Follow-up with Inquiry/Communication

# Communication/ Training / Awareness Exercise

Debrief

# Audit/Assessment

- ⦿ This is an “Internal” audit
- ⦿ Process for proactively identifying strengths and weakness of the entire EMS
- ⦿ Conducted to determine conformance with the EMS
- ⦿ Involves interviews, paperwork reviews, and site observations
- ⦿ Focuses on identifying root causes and corrective actions
- ⦿ Helps drive continual improvement



# Reevaluation and Modification

- Involves examining the entire EMS
- Typically done during a management review
- Includes a discussion of improvements and needs
- Includes changes being made to EMS based on the examination and management feedback



# Best Practices

- Management support
- Staff involvement
- Communication
- Setting aside routine time to implement
- Incorporate into regular tasks
- Continual improvement
- Look for DNR and peer support



# Annual Programmatic Milestones

- ① Grant applications
- ① New participant applications
- ① Annual report submittal
- ① Fall Conference
- ① Auditor Training
- ① Other periodic Trainings/Workshops
- ① External audits



# Annual Participant Tasks

- ① Develop objectives and targets
- ① Monitor and measure progress
- ① Conduct periodic EMS Core Team meetings
- ① Review procedures and update
- ① Perform internal audit
- ① Review system with management, make modifications
- ① Host external audit by DNR
- ① Prepare and submit Annual Report

# Challenges faced by participants

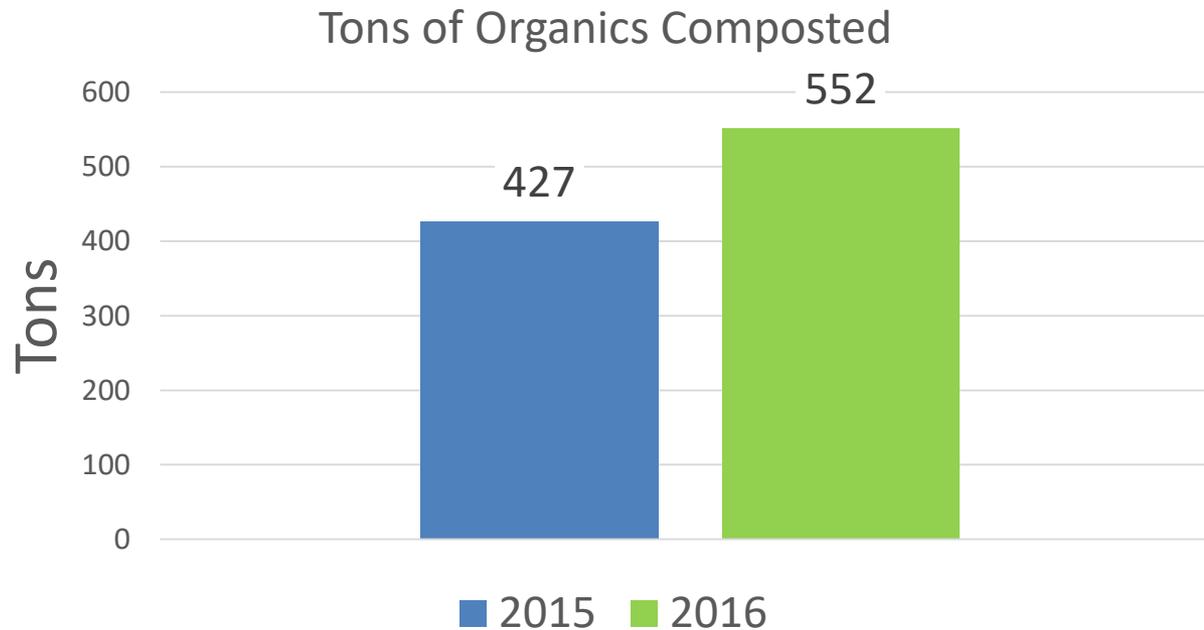
- ⦿ Integration into regular operations
- ⦿ Individuals have a lot of different responsibilities
- ⦿ Limited resources (staff and budget)
- ⦿ Staff buy-in
- ⦿ Need for documentation
- ⦿ New terminology
- ⦿ Change is hard



# EMS Success Stories!



# Iowa City- Yard Waste/Organics



Exceeded target—  
29% increase!



# Rathbun Area- Wood Waste Recycling



277 tons diverted  
in 2 years

07/26/2016



Gresham  
Smith

# South Central Iowa- Greenhouse Gas Emissions

Energy efficient lighting & heating improvements

Cut GHG emissions by  
31 tons/year



# Great River Regional Waste Authority- Water Quality

77% was recycled!



Over 40 tons of trash  
were removed



**SOLID WASTE Environmental Management System**

*Committed to Continuous Improvement*

# Questions?



**SOLID WASTE Environmental Management System**

*Committed to Continuous Improvement*