



**Waste  
Commission**  
of Scott County



**IOWA**  
Department of  
Natural Resources



**G R E S H A M  
S M I T H   A N D  
P A R T N E R S**

# IS THIS REALLY THE BEST WAY TO THE FUTURE?

Iowa's Winding Journey to Move  
Beyond Waste Diversion

# History of Solid Waste Management in Iowa

- Open county and city dumps
- Open burning and buried everything
- Closure of open dumps and the development of permitted sanitary landfills
- Somewhat better than the open dumps
- Better management and operations
- Very minimal environmental protection



# 1987 Groundwater Protection Act

- Protect the health, safety and welfare of lowans
- Protect the environment
- Use resources in a more effective and beneficial way
- Established a solid waste management hierarchy
  - Volume reduction at the source
  - Recycling and reuse
  - Combustion with energy recovery and refuse-derived fuel
  - Combustion for volume reduction
  - Disposal at sanitary landfills
- Required comprehensive plans
- Created a tonnage fee surcharge



*\*Picture from Iowa DNR Website*

# 1989 Waste Reduction and Recycling Act

- Provided a metric for measuring waste reduction
- Used 1988 as baseline year
- 25% per capita by July 1, 1994 and 50% per capita by July 1, 2000
- Banned items from landfill disposal
- Landfill permit renewals denied if goal not achieved
- In 1994, tonnage fee was adjusted based on diversion level
  - Under 25% - remit \$3.30 per ton to DNR
  - Over 25%, under state average, and under 50% - remit \$2.20 per ton to DNR
  - Over 25%, over state average, but under 50% - remit \$2.10 to the DNR
  - Over 50% - remit \$1.95 to the DNR

- Currently using the base year adjustment method
- Population, disposal and economic factors
- Numerous flaws with the method
  - In 1988, only 12 agencies had scales
  - Achieved goal with no program implementation
  - Minimal credit given to programs that reduce toxicity
  - Penalized for improvement programs
  - Waste tracking difficulties
  - No consideration on environmental, economic and social costs
- Many concerns with methodology



*\*Picture from  
University of  
Iowa*

# House File (HF) 2570 – EMS Bill

- Passed during the 2008 legislative session
- Related to solid waste disposal and environmental management by providing for the designation of Environmental Management Systems, providing incentives, creating a solid waste alternatives program council and comprehensive recycling task force, and modifying fees and allocations of funds
- **CONTINUOUS** improvement in programs and services
  1. Yard waste management
  2. Hazardous household waste collection
  3. Water quality improvement
  4. Greenhouse gas reduction
  5. Recycling services
  6. Environmental education



# Benefits of an EMS



- Exempt from solid waste reduction goals
- Determine their own performance goals and measurements
- Provided financial and technical assistance
- Tonnage fee of \$2.10 per ton
- Voluntary program
- Comprehensive planning or EMS designation



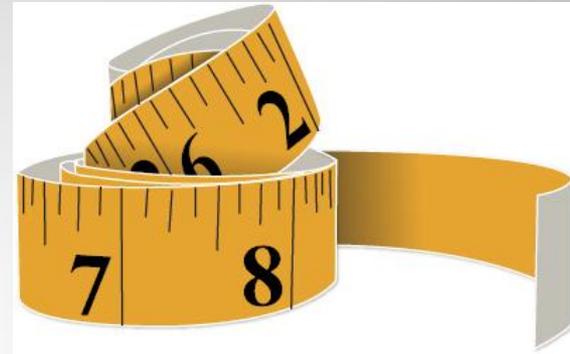
# Solid Waste Advisory Council

- Develop rules to implement legislation
- Work with the EMS designees
- Nine voting members from public and private sector
- Director approval and staggered terms
- Strong advocates and staunch critics
- First meeting took place September 2008
- First year Council accomplishments
  - Defined terms in the legislation
  - Defined eligible activities under the six areas
  - Created an application form
  - Developed grant application and funding criteria
  - Developed criteria for choosing EMS designees
  - Identified required elements of an EMS
  - Added 10 required elements



# Elements Required of an EMS

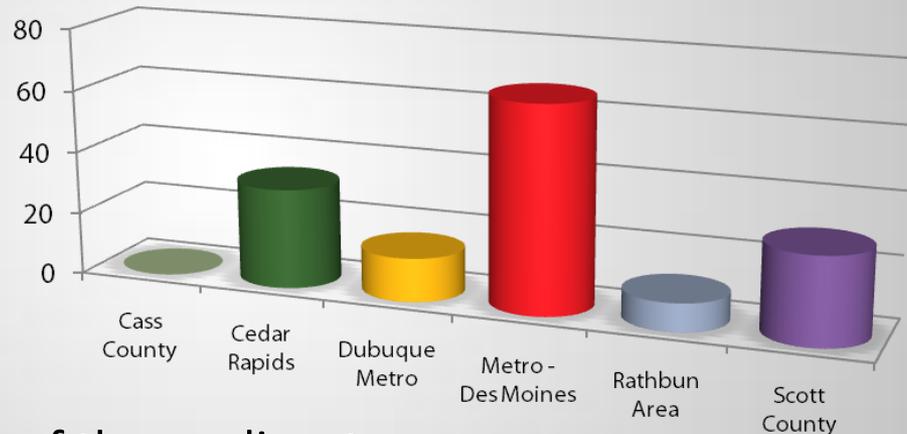
- Environmental policy statement
- Environmental impacts
- Legal and other requirements
- Objectives and targets
- Action Plan
- Identify roles and responsibilities
- Communication/training/awareness
- Monitoring and measurement
- Assessment
- Re-evaluation and modification



First three are overarching; final seven are completed for each of the six component areas

# More Activities of the Council

- Request for Proposals to hire a consultant
- Hired Gresham, Smith and Partners (GS&P)
- Received and reviewed eight applications
- Chose the six pilot participants
  - Geographic distribution of the state
  - Budget and staffing of the applicant
  - Demographics
  - Systems already in place
  - Current goal progress
  - Approach to continuous improvement
  - Environmental compliance status



# Summary



- First annual reports submitted by pilots
- Another round of applications due 8/1/2011
- Painful, exciting, exhausting and challenging
- Voluntary program to focus on a continuous improvement process
- The program will continue to be tweaked as needed
- Get ready for one thrilling ride

# Consultant Perspective



# EMS Program Introduction

- The Council established an EMS framework and selected six solid waste agencies to participate in a pilot program
  - 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
- Role of Pilots
  - Successfully Complete EMS Implementation
  - Share Ideas, Networking, Success Stories

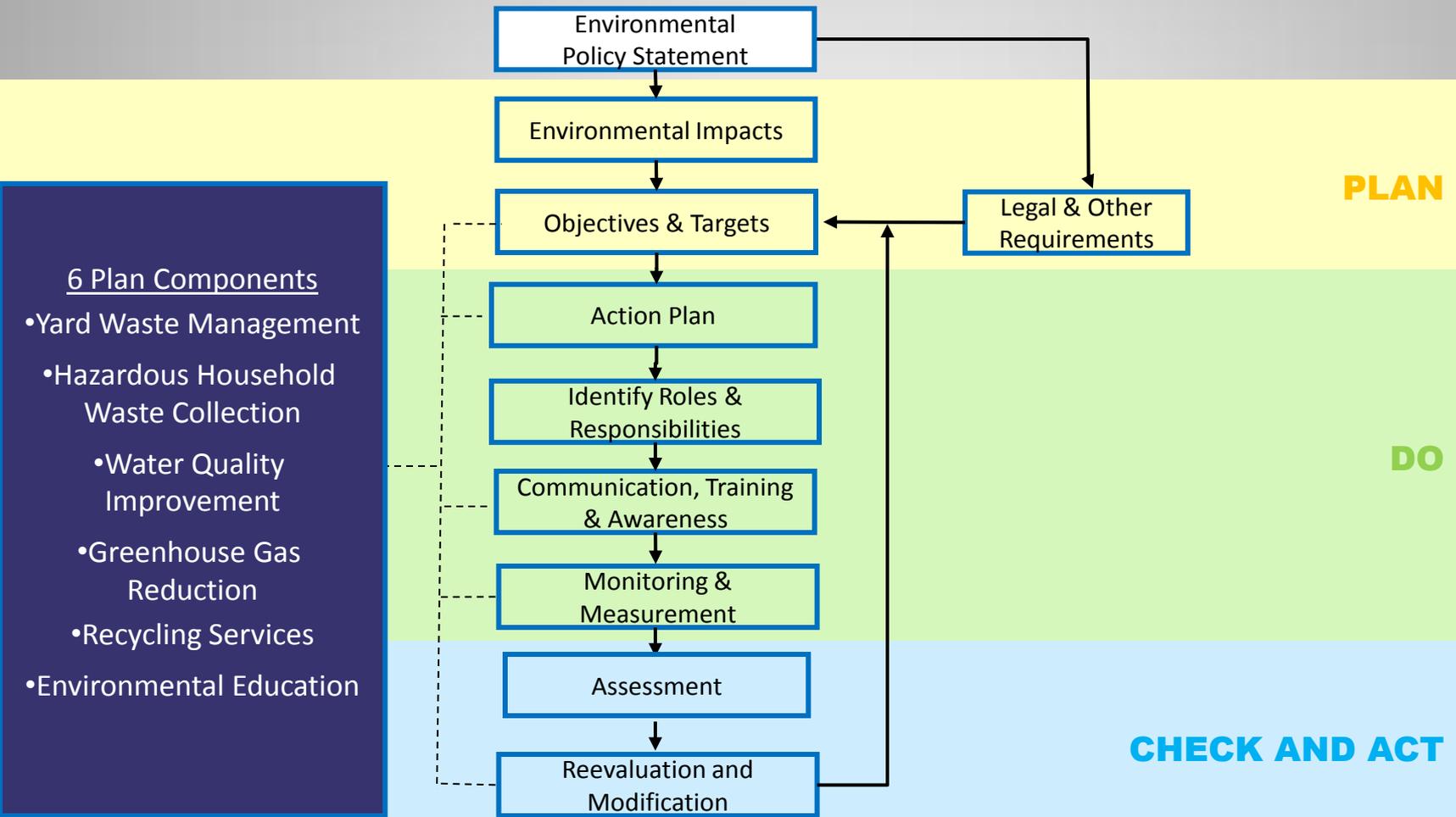


# EMS Pilot Program Implementation

- Council's goal = Pilots should develop an EMS that meets legislative goals while serving the needs of the agency
- A multi-faceted program implementation approach was developed and included:
  - Quarterly workshops
  - Monthly conference calls
  - Two site visits
  - Council meeting updates
  - Project website
  - EMS Templates
  - GHG baseline model
  - Use of EMS tracking software (Intelex)



# Iowa EMS Framework (HF 2570)



# Gap Analysis

- A gap analysis reviews and identifies elements of the EMS that are already in place
  - Benefits
    - Starts understanding of the EMS and EMS language
  - What was the pilots response?
    - Common EMS elements in place (Legal and Other Requirements and Training, Awareness and Competency)
  - Lessons Learned
    - 50 – 70% of the EMS is already in place
      - Comprehensive Plans
      - Vision Statements
      - Training and Outreach Programs

# Identify EMR and EMS Core Team

- Environmental Management Representative (EMR) and EMS Core Team are responsible for the EMS
  - Benefits
    - Provides a leadership group to create and consistently work through details of the EMS process
  - Example EMR/Core Teams
    - Smaller agencies EMR = Executive Director as the EMR
    - Larger agencies EMR = Education/outreach person
    - Smaller agencies EMS Core Team = Board members and EMR
  - Lessons Learned
    - Include management on EMS Core Team
    - EMS Core Team meetings increased communication



# Environmental Policy Statement

- Environmental Policy Statement outlines management commitment to the environment and the EMS
  - Benefits
    - Clearly defines commitments
    - Use as education with staff on the EMS
  - Lessons Learned
    - Build policy statements from existing documents and/or commitments



# Environmental Aspects/Impacts

- *Environmental Aspects/Impacts* are activities' interactions with the environment and the associated changes that occur as a result of the activities performed. The highest ranking impacts are called “significant environmental impacts.”

- Benefits

- Aspects/Impacts assist in identifying environmental priorities and/or risks

- Lessons Learned

- The process was initially confusing
- Allows the organization to prioritize for making improvements
- Staff is able to see how their job directly affects the environment



# Objectives and Targets

- *Objectives and Targets* are the organization's overall environmental goals and must be set for the six plan components. Objectives and targets should be Specific, Measurable, Attainable, Realistic, and Timely (SMART).
  - Benefits
    - Objectives and targets provide clear and concise direction
  - Lessons Learned
    - Pilots already had existing environmental goals to include in the EMS
    - Don't over commit

# Action Plan

- An *Action Plan* outlines the tasks that are necessary to accomplish the objective and target, associated staff responsibilities, deadlines, and other information such as needed resources
  - Benefits
    - Identifies what is achievable with existing resources
  - Lessons Learned
    - Initially difficult to determine a method for updating action plans, but solution was to include the action plan in a software tracking tool
    - Actions plans helped the pilots to strategize and coordinate the implementation of objectives and targets

# Reduce Greenhouse Gases by 5% by December 31, 2012

Activity	Responsibility	Due Date	Staff Time	Cost Estimate
Collect Baseline GHG Emissions Information	Joe	10/1/2009	3 Hrs/Wk	\$10,000
Publish Data on Website	Frank	11/1/2009	40 Hours	\$0
Convert Sedans to Electric	Norman	1/30/2010	10 Weeks	\$125,000
Implement Biodiesel Program for On-road Fleet	Mary	3/15/2010	10 Hrs/Wk	\$25,000
Investigate Methane Capture and Associated Costs	Lynne	9/30/2010	8 Weeks	\$0
Implement Recycling Program	John	12/31/2011	20 Weeks	\$8,000

# Key Resources and Additional Needs

- *Identifying Key Resources and Additional Needs* includes but is not limited to budget, staff, staff skills, equipment, and resources of external organization. An additional component includes identification of EMS roles and responsibilities.
  - Benefits
    - Makes staff aware of the EMS and their role
  - Lessons Learned
    - The size of the organization directly how long it takes to complete the key resource evaluation



# Communication/Training/Awareness

- *Communication/Training/Awareness* includes both internal and external communication of the EMS as well as employee training and awareness
  - Benefits
    - Increases efficiency in message campaigns
    - Promotes employee involvement and cross-training
  - Lessons Learned
    - Pilots had existing environmental training, but had not identified training requirements by job title and tracking was inconsistent
    - Tracking and following through on requests from the public is necessary in the EMS
    - Internal awareness of the EMS leads to environmental improvements



# Monitoring and Measurement

- *Monitoring and Measurement* includes identification and tracking of metrics associated with objectives and targets as well as other key activities
  - Benefits
    - Provides information that demonstrates the EMS is working
    - Data motivates and provides information for decision makers to continue to build support and resources for the EMS
  - Lessons learned
    - Choose simple, but meaningful metrics to track progress and promote achievements
    - Pilots were collecting metric data, but the EMS provided the necessary framework to set up a tracking system



# Assessment

- *An Assessment* is a review of the EMS and indicates whether the EMS has been implemented as designed and required by HF 2570. The assessment should be conducted by an individual that has not been intimately involved with the EMS.
  - Benefits
    - Identifies areas of the EMS that are working well and potential weaknesses that may cause the greatest risk to the organization
  - Lessons Learned
    - Identification of an internal auditor was difficult for some pilots and the smaller pilots generally used an external party
    - All pilots had successfully implemented an EMS, but some were still struggling with how to systematically update action plans and monitoring and measurement data

# Re-evaluation and Modification

- *Re-evaluation and Modification* includes correction action on weaknesses identified during the EMS assessment as well as conducting a senior management review
  - Benefits
    - Provides for continual improvement of the EMS
    - Identifies strengths and weaknesses of the EMS
  - Lessons Learned
    - Identifying the root cause of an EMS weakness is the path to a permanent fix
    - Management review provides direction for the EMS for the future

# Feedback from EMS Pilot Program

*“The EMS Pilot Program encouraged the solid waste agencies to work together and coordinate efforts.”*

*“The pilot solid waste agencies thought the EMS implementation process was a great way to share ideas, discuss common problems, and provided networking opportunities as well.”*

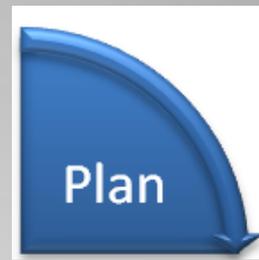
# Pilot Perspective



# EHSMS Background

- Waste Commission of Scott County selected as one of six agencies for Iowa DNR's pilot Environmental Management System (**EMS**) program
- The goal of an EMS is **continuous improvement**.  
(Plan, Do, Check, Act)





## EHSMS Progress

- Received initial training in November 2009
- Established **Core Team** (Director, Operations Manager, Special Waste Manager and Communication Coordinator)
- Designated an Environmental Management Representative (**EMR**)
- Established **Fenceline** (boundaries within which our EHSMS operates)
- Identified **Legal and Other Requirements.**
- Adopted **EHSMS or EMS Policy** (Iowa EMS does not require health & safety to be a component; Commission chose to include it.)

# Environmental Health & Safety Policy

- Waste Commission of Scott County is committed to operating and providing the highest level of service in a safe, responsible manner that respects the environment and the health and safety of our employees, our customers, and our community. We will not compromise environmental, health or safety values for production or economic gain.
- Waste Commission of Scott County employees are expected to understand, promote and assist in the implementation of this policy and the accompanying principles.

# POLLUTION PREVENTION:

Minimize or prevent releases to air, land and water at our facilities.



# PROTECT

OUR EARTH, HEALTH, SAFETY.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# REGULATORY COMPLIANCE:

We will meet or exceed all relevant environmental laws and regulations.



**PROTECT**  
OUR EARTH, HEALTH, SAFETY.



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# OUTREACH:

Communicate transparently & provide public environmental education.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# TRAINING:

Provide EHS & EMS training for employees & solicit their feedback.



**PROTECT**  
OUR EARTH, HEALTH, SAFETY.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# EVALUATION:

Establish, measure & report objectives and targets annually.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# CONTINUOUS IMPROVEMENT:

Continually seek out ways to improve our environmental performance.



**PROTECT**  
OUR EARTH, HEALTH, SAFETY.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# THINK GREEN:

Strive to lead sustainable practices  
in Scott County & beyond.



# PROTECT

OUR EARTH, HEALTH, SAFETY.



To learn more about Waste Commission of Scott County's Environmental Health and Safety Management System visit: [www.wastecom.com](http://www.wastecom.com)

# 2011 Significant Aspects and Impacts

- 9 Significant Impacts
- Plus, impacts that fulfill one of the Iowa EMS requirements must be considered significant

Activity	Condition	Aspect	Impact	Significant	Score
Providing an electronic waste recycling program EDF	Normal	Recycling	Preservation of landfill space/Conservation of natural resources	Yes	25
Providing HHM Services	Normal	Waste Generation and Disposal	Reduction in landfill toxicity	Yes	25
Providing a subtitle D Landfill	Normal	Land Usage	Aesthetics and community environment	No	23
Educating employees on the Commission's EMS and EHS and associated objectives and targets.	Normal	Education	Increase in awareness and environmental stewardship	Yes	23
Educating on HHM Services	Normal	Education	Increase in awareness and environmental stewardship	Yes	21
Spill while handling a large amount of mercury HHM	Abnormal	Spills	Degradation of soil, water and/or sediment quality	No	21
Providing iLivehere program (community cleanups) (Educating)	Normal	Education	Aesthetics and community environment	Yes	19
Providing shingle recycling program (Landfill)	Normal	Recycling	Preservation of landfill space/Conservation of natural resources	Yes	19
Picking up litter ALL	Normal	Education	Aesthetics and community environment	No	19

# Objectives, Targets, Action Plans

- The Commission established objectives based on the most significant (positive or negative) environmental impacts
- Also developed objectives based on the Iowa EMS component areas, as we are required to make continuous improvement in each of the six areas:
  - Recycling
  - Household Hazardous Material
  - Yard Waste
  - Greenhouse Gas Emissions
  - Water Quality
  - Environmental Education



# Objective: Increase shingle recycling at Scott Area Landfill

- Target: Increase shingle recycling by 20% by July 1, 2011
- Action Plan
  - Develop education plan for roofers
  - Develop rate structure and incentives
  - Hold workshop for roofers
  - Secure grinding services
  - Quantify results
  - Market the program
- EMS Component(s): Recycling, Environmental Education

# Results: Increased shingle recycling at Scott Area Landfill

- Target: Increase shingle recycling by 20% by July 1, 2011
- Action Plan Resulted in
  - 55 roofers participating in program
  - Incentives included reduced rates, trash bags, promotional yard signs and public recognition
  - Increased shingle recycling from 2,303 tons in FY10 to 3,132 tons in the first 6 months of FY11
- Received Asphalt Paving Association of Iowa Innovation Award



# Audits

What might the auditor ask employees?

- Does the Commission have an Environmental Management System or Environmental, Health & Safety Policy?
- What is the EHSMS Policy about? What do you know about it?
- Does your job have any impact on the environment?
- What kinds of impacts does your work have on the environment?
- If there are negative impacts that are significant, are you or the Commission doing anything to address those?
- What would you do and who would you call in an emergency or with an environmental question?

# Internal Audit and Findings

- Internal audit is a check by the Commission to ensure the EHSMS is working properly
- First internal audit conducted August 26, 2010
- Three “Commendables,” Five “Opportunities for Improvement,” Two “Notes”
- Re-evaluation and Modification

Based on the internal audit report, Core Team assessed the Opportunities for Improvement and Notes and worked on improvements prior to the External Audit.

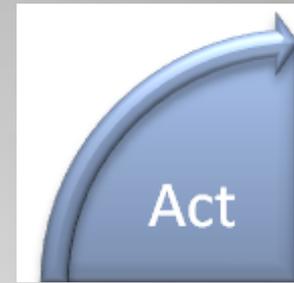
# External Audit Findings

## Environmental Policy Statement

**Commendable:** Staff members interviewed were knowledgeable about the EMS and were very engaged. The PROTECT acronym has been very effective. The Commission has done a good job communicating what EMS means to the employees.

## Legal and Other Requirements

**Opportunity for Improvement:** Document Control is still a work in progress. The organization may find benefit in implementing use of Intalex Document Control system - Document Number, Issue Date, Revision Number are all tracked by the software.



# Next Steps

## Re-evaluation and Modification

- The auditor will take note of major non-conformances, minor non-conformances and “commendables”
- The Core Team will discuss and document the findings and will work to find the root cause of problems and/or take corrective action
- The Core Team will meet each November to re-evaluate aspects, impacts, objectives, targets, legal and other requirements, etc.
- The EHSMS will be audited annually, at minimum
- Senior Management will review and assess opportunities for improvement and the need to change the EHSMS

# Lessons Learned

- Don't try to complete an EHSMS in a year. A minimum of two years should be allowed with the understanding that it is a work in progress – continually improving
- DNR provided training and resources were extremely helpful
- Guidance and training from GS&P was exceptional
- MOST IMPORTANT – EHSMS brought about culture change
  - No single EHSMS element stands alone
  - Not a list of rules, but statement of values
  - EHSMS guides decisions, priorities and objectives



**WELL WORTH  
THE EFFORT!**

# Iowa Department of Natural Resource Perspective



# DNR EMS Role



- Council Meeting Administration
- EMS Council Member
- Attend Site Visits
- Conference Calls

- Internal Audits
- External Audits and Reports
- Record Keeping
- Grant Administration

# DNR EMS Role



- Committee Participation
- EMS Administrative Rulemaking
- Request for Proposal, Information Administration
- Quarterly Training Meetings
- Budget Oversight
- EPC Contact
- Contracts Administration

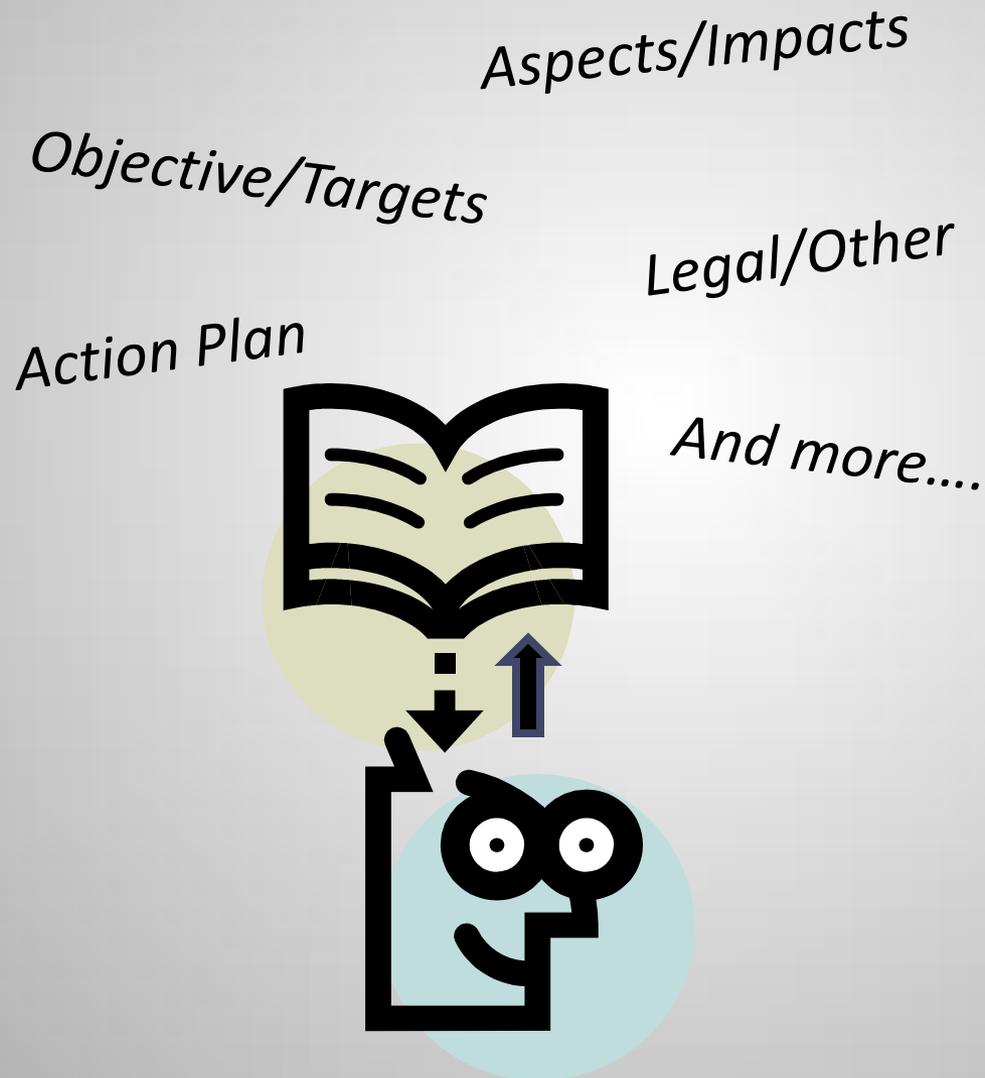
# Grant Funding

- Grant Criteria went through rulemaking process
- Quick Start Grants – up to \$20,000 no cost share required
- Competitive Grants – Application due date March 1
  - Tier 1 and 2 – \$50,000 limit per participant, 50% match requirement and half must be cash. Depending on budget, Council will set aside funds for Tier 1 participants and will budget remaining funds for Tier 2. EMS designees may partner on projects.

Pilots used grant funding for innovative projects



# How best to record and track procedures and institutional knowledge?



Compliance, training documentation, document control, monitoring, management review...and Annual Report preparation...

The screenshot displays the INTELEX web application interface. At the top, there is a navigation bar with 'Main | Tasks | Reporting | Recent' and a 'More Toolbars...' dropdown. On the right, there are links for 'Setup', 'IE', 'Help', and 'Logout'. Below this is a secondary navigation bar with icons for 'Home', 'My Tasks', 'Dashboard', 'Site Map', 'Reporting', 'My Email', and 'Message Center'. To the right of these icons are dropdown menus for 'Location' (set to 'Cass') and 'Module' (set to 'Objectives & Targets').

The main content area is titled 'Objectives & Targets: Environmental Management Program Details' with an 'Exit' button. Below the title are three tabs: 'Home', 'Objectives and Targets', and 'EMP Activities'. The 'EMP Activities' tab is active, showing a list of activities for the 'Cass' location. The activities are as follows:

Record No.	Objective	Target	Notes	Person Responsible	Target Date
00056	Establish a CFL Disposal Program	establish a baseline		Wittrock, Wendy	Saturday, December 31, 2011

Below the table, there is a section for 'EMP No. 00001' with a description 'CFL Disposal Program' and 'Person Responsible: Wittrock, Wendy'. The 'EMP Target Completion Date' is 'Saturday, December 31, 2011'. The 'EMP Actual Completion Date' is empty, with a date picker showing '(MM/DD/YYYY)'. The 'Notes' section contains three entries:

- 02/01/2011 Visit collection locations and educate sites on new program.
- 02/09/2011 Order collection buckets and prepare labels.
- 2/18/2011 Prepare handouts and place collection containers in locations.

At the bottom left, there is a link for '+ Associated Documents'.



## Greenhouse Gas (GHG) Emissions – how to measure?

- Investigate protocols
  - ICLEI (Local Governments for Sustainability) Model
  - Warm (Waste Reduction) Model – set up by EPA, didn't do what Pilots needed
  - EPA Model for Pollution Prevention Program and others

# GHG Request for Proposal (RFP)

- RFP based on ICLEI protocols
- Wenck Associates selected - bid of \$23,934



## The Wenck model applies to:

- Sanitary Landfill
- Waste Transfer Station
- Electronics Demanufacturing Facility
- Appliance Demanufacturing
- Household Hazardous Waste
- Offices and Shops
- Fleets and Equipment
- Recycling Facilities
- Compost Facilities

Greenhouse gases included in the model are carbon dioxide, methane and nitrous oxide

# Spreadsheet Tool

**Organization Name**  
 Greenhouse Gas Emissions Tracking Spreadsheet  
 Summary  
 Facilities: 2



## Solid Waste Management Organization Summary

*All values are in metric tons of CO2-e*

Year	Scope 1			Scope 2			Scope 3		
	Cass County Landfill	Cass County Recycling	Total	Cass County Landfill	Cass County Recycling	Total	Cass County Landfill	Cass County Recycling	Total
2009	271	48	318	99	0	99	0	0	0
2010	263	53	316	96	0	96	0	0	0

Scope 1 – direct GHG emissions – landfill emissions

Scope 2 – indirect discharges from consumption of power, fuel

Scope 3 – contracted third party hauling

It's important to have complete data for your baseline year.

- Landfill emissions can be calculated multiple ways
- Electric, propane, other fuel bills
- Isolate areas you wish to make improvements in

# Annual Report

•Compliance - six component areas:  
Environmental Education, GHG Reduction,  
Water Quality Improvement, Household  
Hazardous Waste Collection and Yard  
Waste Management, Recycling

 Submit  
12/31/10



## EMS Audit

- DNR put together a preliminary Audit Team
  - Jennifer Wright, Financial and Business Assistance Section, supervisor, compliance audit experience
  - Jeff Fiagle, Pollution Prevention Team Leader, EMS business experience
  - Leslie Goldsmith, DNR EMS Lead Staff

# Audit Standard Checklist

Iowa EMS Element Description and Number	Interview Notes	Me t	Par tly Met	Not Me t	Comme ndable
Legal and Other Requirements					
Has a legal and other requirements list been developed and does the list include relevant environmental laws, regulations and permits, worker health & safety? <i>Date of list?</i>					
Is there a documented process for reviewing and updating legal and other requirements? <i>See document. Who keeps it current? Who knows where it is?</i>					
Were there any changes to operations or changes to laws or regulations which affect the EMS? <i>If so what were they? How did you deal with them?</i>					
Are there any legal and other gaps or areas that need to be addressed? <i>Do we know what those are? Iowa Codes, Federal Code, OSHA, local regulations</i>					



In February, EMS Council members reviewed Annual Reports and Audit Reports and **voted to retain the 6 participants in EMS.** Participants' status will be reviewed again in 2011.

# Application Selection Criteria

**APPLICATIONS WILL BE REVIEWED BY THE EMS COUNCIL USING THE FOLLOWING EVALUATION CRITERIA:** Note: An application will need an average EMS Council Total Point Score of 70 to be considered to be recommended for EMS designation.

	Point Value
<b>1. Application</b>	
a. Completeness	3
b. Clarity	3
<b>2. Six Component Areas Proposed Improvements and Anticipated Outcomes</b>	
a. Yard Waste Management	9
b. Hazardous Waste Disposal/Collection	9
c. Water Quality Improvement	9
d. Greenhouse Gas Reduction	9
e. Recycling	9
f. Environmental Education	9
<b>3. Partnership Opportunities</b>	
a. Intended Partnerships	8
<b>4. Overall Impact to Planning Area/Permitted Facility Service Area</b>	
a. Overall Environmental Impact	8
b. Overall Benefit to Planning Area/Permitted Facility Service Area	8
<b>5. Level of Commitment and Sustainability</b>	
a. Staff Commitment and Leadership	8
b. Financial Commitment	8
<b>Total Points</b>	<hr/> 100

Begin training Fall 2011 – EMS training is a 2-year process

# Post Pilot – What’s Next?

- Rulemaking – Chapter 111
- New “normal” – how will this work ongoing?
- Continuous improvement
- Keeping the excitement in EMS
- How many of the 43 Planning Areas will be EMS?



Iowa’s EMS Solid Waste Agencies – making continuous environmental improvements!

[leslie.goldsmith@dnr.iowa.gov](mailto:leslie.goldsmith@dnr.iowa.gov)

515-281-8499

DNR EMS Website:

<http://www.iowadnr.gov/InsideDNR/RegulatoryLand/SolidWaste/ComprehensivePlanning/SolidWasteEMS.aspx>