
Patuxent WRF Biosolids EMS

Objectives

- **To understand what an Environmental Management System is and why it is necessary.**
- **To understand the basic components of a Biosolids Environmental Management System.**
- **To understand the roles and responsibilities with an EMS.**

What is an EMS?

- **Like a manual for your car.**

How to care for it, when to add oil, do maintenance, troubleshooting.

- **Like a TV/DVD manual**

How to use how to turn on/off, pause, rewind.

- **Like a recipe**

How to measure & mix ingredients, what pan to use, how long to cook.

An EMS is all about how to repeat quality over and over again.

Here's how that applies to biosolids 

Biosolids: Anne Arundel County's Approach

- **How does Anne Arundel County handle our biosolids?**
- **Do you view this as recycle or disposal?**

Anne Arundel County retains a contractor to lime stabilize our sludge to kill pathogens (disease causing organisms), use a belt press to remove excess water, and then apply to farms. This is a great way to recycle this valuable resource

Why recycle biosolids through land application?

- Valuable resource (Natural nitrogen & phosphorous).
- Saves landfill space by recycling.
- Saves Farmer cost in fertilizer and lime.
- Beneficial to crops.
- Reduces erosion of soil to surface water.
- Reduces runoff to surface water.
- Saves AACo \$. Synagro is the bridge between AACo and the farmer.



Pressure on Land Application Sites

- **Encroachment on rural areas by development.**

- Farmers often sell unprofitable fields to developers.

- **Tougher regulations.**

- Nutrient management makes compliance more complicated & costly.

- **NIMBY.**

- Not in my backyard. This reduces places where biosolids can be land applied.



Biosolids Programs Are Under Increasing Pressure

- **Public concerns about biosolids**
 - Public Safety & Health
 - Environmental Impacts
 - Odor
 - Contamination Issues
 - Truck Traffic
- **Lack of trust in government**
- **Bad press due to a lack of information or misinformation.**
- **Potential disconnect between generators and contractors**
- **Increasing restrictions and bans on land application**



We Play a Critical Role in Protecting the Local Environment

- **Our community relies on us to:**
 - **Keep our rivers and lakes clean**
 - **Protect public health**
 - **Recycle valuable nutrients**
 - **AND accomplish this in a cost effective, efficient manner.**



To Help Address This We Are Participating in the National Biosolids Partnership EMS Program

***NBP Program Goal:
Advance Environmentally Sound and
Accepted Biosolids Management
Practices—Gain Public Acceptance***



What is an EMS?

- It's a standard program for how we ensure quality:
- How we operate our facility.
- How we check to make sure everything is working.
- How we document our checks.
- How we sample and test the quality.
- How and when we do maintenance.
- How we document results, inquiries, complaints, suggestions.
- How we respond to emergencies (specifically spills)

Biosolids EMS Promotes Four Key Outcomes

Quality Management Practices

Ensure consistent product quality

Relations with Interested Parties

Establish and maintain credibility

Regulatory Compliance

Meet or exceed compliance with regulatory requirements

Environmental Performance

Protect the environment for future generations

Biosolids EMS Promotes Four Key Outcomes: This is how we already do it!



Features of an EMS

- **Written**
- **Commit to a certain quality (at least meeting regulatory requirements at first).**
- **Contains checklists and procedures to check the quality.**
- **Contains procedures for reporting when we don't meet quality or have a spill.**
- **Contains procedures to talk about our program with employees, managers, citizens, regulators – anyone who wants to know about the program.**
- **Contains procedures for employees, managers, citizens, regulators to give us input into our EMS program.**
- **Contains procedures for training employees on EMS¹³**

Basic Components of an EMS

- **Identify process and priorities (legal & regulatory)**
- **Set goals**
- **Identify performance indicators**
- **Implement action plan**
- **Training**
- **Measure improvements**
- **Demonstrate performance on an ongoing basis**

We are already doing many of the elements of an EMS: We already look at:

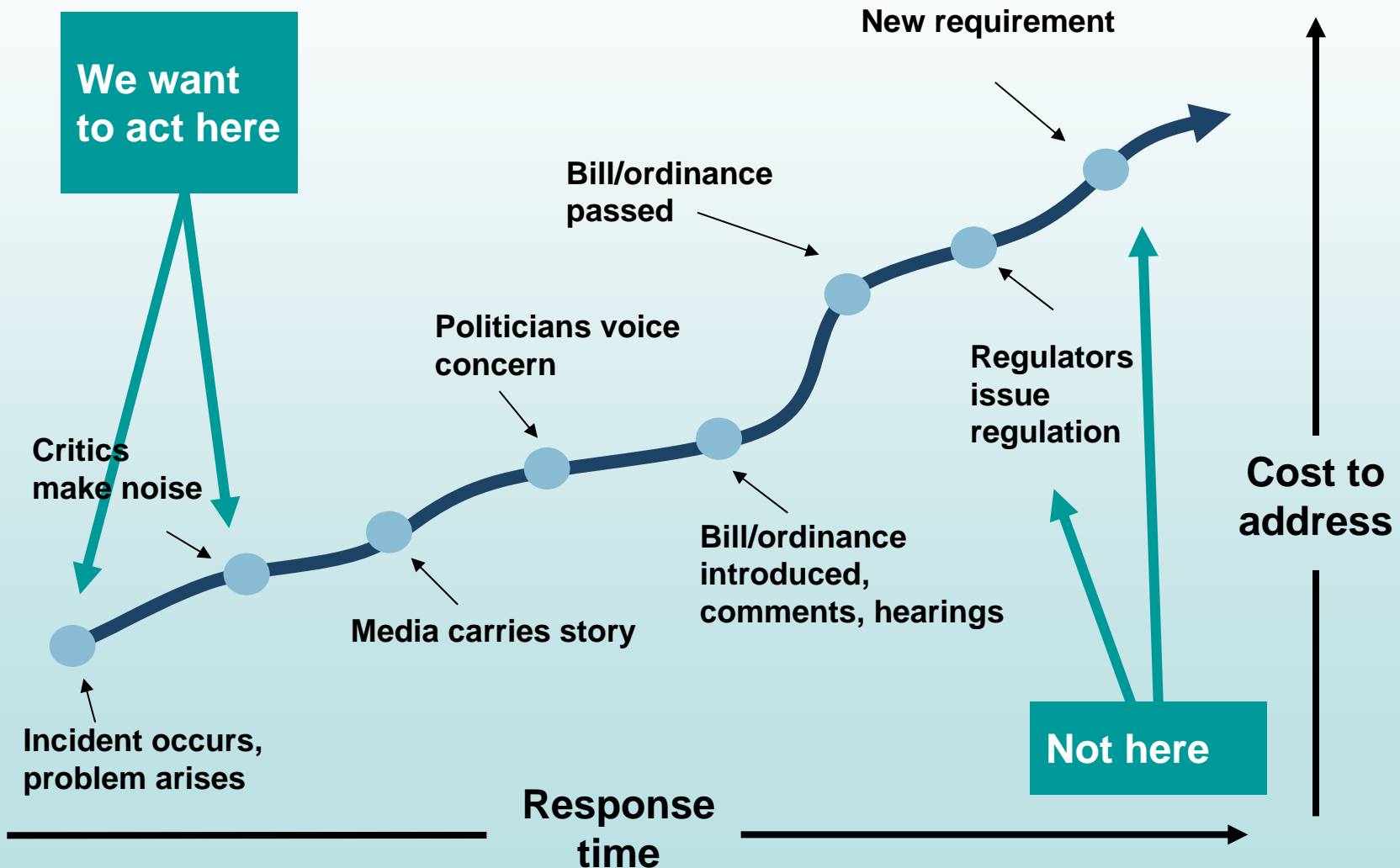
- 1. What quality do we want? (regulatory).**
- 2. What quality do we have? (lab results, reports).**
- 3. What processes affect that quality? (SOPs: ox ditch, thickeners, BFP, lime).**
- 4. How can we make sure these processes work the same way everyday? (SOPs, tests, checklists, training, PMs, report problems).**
- 5. What do we do if there's a spill or emergency? (ERP)**
- 6. What if there is a complaint? (send written info to boss).**
- 7. How do we talk about our program? (training, intranet, internet, fairs, posters, tours).**
- 8. How can we improve quality, reduce costs? (evaluate, set goals).**

Using an EMS strengthens an agency.....

Strengthens AACo Because We Are:

- **Looking for areas for improvement (lab, operations, contractors, sub-contractors).**
- **Producing a good product consistently.**
- **Troubleshooting when problems arise.**

EMS Helps Us React Quicker and Respond Better



What is Our EMS Policy?

- *“Anne Arundel County will pursue beneficial biosolids reuse options that protect human health and environmental quality, are cost effective, and provide flexibility with respect to end use.”*
- Follow the [Code of Good Practice](#) for biosolids developed by NBP
- Periodically evaluate beneficial reuse options that provide potential for improved efficiencies or better meet the needs of the community
- Providing training opportunities to personnel

CODE of GOOD PRACTICE

The Code of Good Practice (the Code) is a broad framework of goals and commitments to guide the production, management, transportation, storage, and use or disposal of biosolids – in short, a comprehensive environmental management system for Biosolids (EMS). Those who embrace the Code and participate in the EMS commit to “do the right thing.” Specifically, Code subscribers and EMS participants pledge to uphold the following principles of conduct:

COMPLIANCE: To commit to compliance with all applicable federal, state, and local requirements regarding production at the wastewater treatment facility, and management, transportation, storage, and use or disposal of biosolids away from the facility.

PRODUCT: To provide biosolids that meet the applicable standards for their intended use or disposal.

ENVIRONMENTAL MANAGEMENT SYSTEM: To develop an environmental management system for biosolids that includes a method of independent third-party verification to ensure effective ongoing biosolids operations.

QUALITY MONITORING: To enhance the monitoring of biosolids production and management practices.

QUALITY PRACTICES: To require good housekeeping practices for biosolids production, processing, transport, and storage, and during final use or disposal operations.

CONTINGENCY AND EMERGENCY RESPONSE PLANS: To develop response plans for unanticipated events such as inclement weather, spills, and equipment malfunctions.

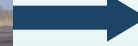
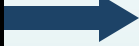
SUSTAINABLE MANAGEMENT PRACTICES AND OPERATIONS: To enhance the environment by committing to sustainable, environmentally acceptable biosolids management practices and operations through an environmental management system.

PREVENTIVE MAINTENANCE: To prepare and implement a plan for preventive maintenance for equipment used to manage biosolids and wastewater solids.

CONTINUAL IMPROVEMENT: To seek continual improvement in all aspects of biosolids management.

COMMUNICATIONS: To provide methods of effective communication with gatekeepers, stakeholders, and interested citizens regarding the key elements of each environmental management system, including information relative to system performance.

Manage Our Processes to Ensure Product Quality



- Think of biosolids as a product, not a by-product
- Manage key activities that impact biosolids quality and the environment
- Follow best practices and have documented procedures for key activities

What Do You Need to Know

- **Managers and staff should understand**
 - **Why the organization is doing an EMS**
 - **What role we play in protecting the environment**
 - **The commitments we have made as an organization to protecting the environment**
 - **How your job responsibilities are related to ensuring product quality and preventing environmental impacts**

Roles & Responsibilities- Operators and Lab Techs

- **Follow SOPs (PMs, checklists, samples, paperwork).**
- **Report and Document problems/concerns.**
- **Report questions/complaints from interested parties.**
- **Provide input on current practices to increase efficiency.**

Roles & Responsibilities – Contractor

- **Perform contracted work: (operation, repairs, replacement, sampling, testing, documentation, transportation/application, etc.)**
- **Communicate problems to AACo.**
- **Follow EMS and SOPs.**
- **Inform AACo of regulatory/legal changes.**
- **Revise SOPs when necessary.**
- **Communicate with interested parties alone and with AACo.**
- **Follow Emergency Response Plan.**
- **Inform AACo of questions, requests for information, complaints from public.**
- **Provide recommendations to increase efficiency.**

Roles & Responsibilities- Team Manager

- **Provide oversight of Operations and Contractor.**
- **Prepare/revise SOPs, checklists, etc.**
- **Ensures SOPs are followed.**
- **Provide training on new/revised SOPs, etc.**
- **Supports Emergency Operations Plan.**
- **Provide recommendations to increase efficiency.**

Roles & Responsibilities- EMS Coordinator

- **Update EMS manual following regulatory/legal changes, changes to SOPs, management structure, policies/procedures**
- **Provide training to employees and contractors.**
- **Prepare annual reports.**
- **Update EMS intranet/internet websites.**
- **Set up internal and 3rd party audits**

Roles & Responsibilities- Utility Operations Administrator

- Approves changes to Critical Control Points (Biosolids Value Chain), goals/objectives, EMS Policy
- Reviews/approves all EMS related reports.

Roles & Responsibilities – Deputy Director, Public Works

- **Reviews EMS policy, EMS manual.**
- **Provides input/direction/recommendations to increase efficiency.**
- **Supports the EMS program through organizational and budgetary support.**

Roles & Responsibilities – Public Works Director

- Approves EMS policy, EMS manual.
- Provides input/direction/recommendations to increase efficiency.
- Supports the EMS program through organizational and budgetary support.

Reporting a Problem (Or a “Non-conformance”)

- Issue with biosolids quality
- Spill or incident that could impact the environment or affect worker safety
- Situation that could cause a permit violation or has potential to result in negative impact to the environment
- Failure to follow a procedure that could cause a problem

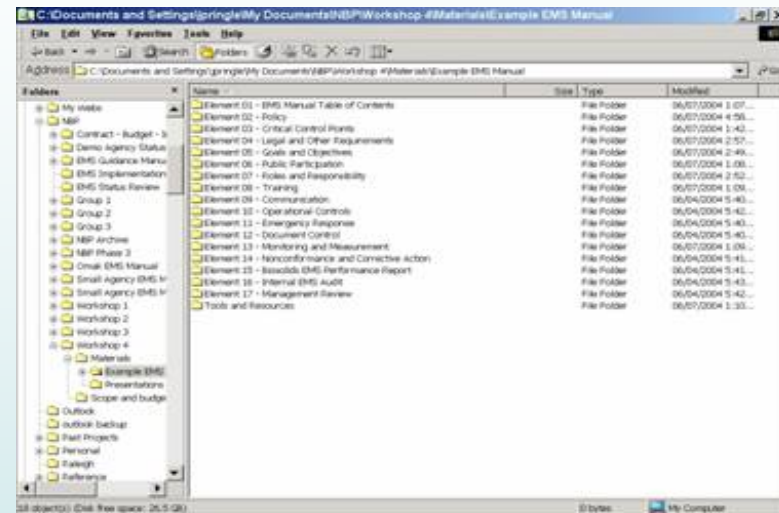


Notify the Team Manager and the EMS coordinator by e-mail or phone. For permit violations, follow established procedures.

Reporting a Comment or Input from the Public

- **Record the information: person's name, date, their contact information, and their question/suggestion/complaint. Send this to the Team Manager (who will forward to UA and EMS Coordinator after reviewing).**

Where to Go to Access Procedures and Information



EMS Coordinator: Noelle Anuszkiewicz (pwnoel00@aacounty.org) ext. 7931

EMS Manual: \\pwnoel00\EMS, Intranet and Hardcopies located in Solids Building and Administration Building.

Emergency Response Plan: \\pwnoel00\EMS, Intranet and Hardcopies located in Solids Building and Administration Building.

SOPs: \\pwnoel00\EMS, Intranet and Hardcopies located in Solids Building and Administration Building.

Quick Check

- **What is an Environmental Management System and why it is necessary?**
- **What are the basic components of a Biosolids Environmental Management System?**
- **What is your role and responsibilities with an EMS?**
- **Name some other roles in the EMS?**
- **How are complaints, suggestions, request for information handled?**
- **What do you do if you are a first responder to a spill?**
- **Where can you go for more information?**