

Developing Measures that Matter: An Approach for Developing Measures for Your SBAP

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Presentation Goals

- Enable participants to develop a common understanding of performance measurement terminology and concepts.
- Introduce NCEI's logic model approach for developing performance measures.
- Understand the steps involved in developing performance measures.

Session Agenda

- Module 1: Building a Common Understanding of Performance Measurement: *Terms You Should Know*
- Module 2: Performance Measurement Framework: *How NCEI Does It*
- Module 3: Tools for Developing Measures: *Application of Basic Steps*

Module 1: Building a Common Understanding

Terms You Should Know

Definitions

- Performance measure – a metric used to gauge program or project performance.

- Performance measurement – the *ongoing* monitoring and reporting of program progress and accomplishments, using pre-selected performance measures.

- Indicators – measures, usually quantitative, that provide information on program performance and evidence of a change in the “state or condition” in the system.
 - Indicators measure the “state of” something, typically in the natural environment. Performance measures help us assess the effect of our programs. As defined by King County DNRP, WA.

What is the difference between an Indicator and a Performance Measure?

“Indicators and performance measures are both terms used to describe data associated with desired results or outcomes. However, the main difference between these two terms is the degree of control we have over them. Indicators measure the “state of” something, typically in the natural environment. Performance measures help us assess the effect of our programs.” Key differences between indicators and performance measures include:

ISSUE	INDICATOR	PERFORMANCE MEASURE
Degree of control	DNRP has less control or can only influence the indicator	DNRP has higher degree of control
Outside influences	More outside influences	Fewer outside influences
Achievement	Due to number of influences and nature of interjurisdictional response, may take longer to achieve	Due to degree of control and fewer influences, may be achieved in a relatively shorter timeframe
Reporting	Reported countywide in county Benchmark Report Reported by urban-rural or incorporated-unincorporated in DNRP report due to limited programmatic reach or impact	Reported only in DNRP report
Use	Ambient sites are used as indicators of the condition of the environment	Outfall sites are used as agency performance measures
Strategy	Requires other jurisdictions and organizations	DNRP may be able to attain by itself, or with limited additional assistance

Types of Measures

Category	Definition	Examples
Resources/ Inputs	Resources consumed by the organization.	Amount of funds, # of FTE, materials, equipment, supplies (etc.).
Activities	The work performed that directly produces the core products and services.	# of training classes offered as designed; Hours of technical assistance training for staff;
Outputs	Products and services provided as a direct result of program activities.	#of technical assistance requests responded to; # of compliance workbooks developed/delivered.
Customer Reached	Measure of target population receiving outputs.	% of target population trained; # of target population receiving technical assistance.
Customer Satisfaction	Measure of satisfaction with outputs.	% of customers dissatisfied with training; % of customers “very satisfied” with assistance received.
Outcomes	Accomplishment of program <i>objectives</i> (short-term and intermediate outcomes) and accomplishment of program <i>goals</i> (long-term outcomes--impacts); attributable to program outputs.	% increase in industry’s understanding of regulatory recycling exclusion; # of sectors that adopt regulatory recycling exclusion; % increase in materials recycled

Work Quality Measures

Efficiency	The ratio of the amount of input to the amount of output. Focus is on operating efficiency. Relating output to some specific resource in terms of cost or time.	Cost per workbook produced; Cost per inspection conducted.
Productivity	Measure of the rate of production per some specific unit of resource (e.g. staff or employee). The focus is on labor productivity.	Number of enforcement cases investigated per inspector.
Cost Effectiveness	Measure that relates outcomes to costs.	Cost per pounds of pollutants produced; Cost per mile of beach cleaned.
Service Quality	Measure of the quality of products and services produced.	Percent of technical assistance requests responded to within one week.

Uses of Performance Information

- Assess allocation of resources to support activities.
- Set program priorities (difficult to do without evaluation).
- Assess whether program/project goals are being met.
- Provide information for policy/project decision-making.
- Demonstrate value to stakeholders and public.
- Adopt new program or project approaches or change work processes.
- Coordinate program or project efforts with other internal or external programs/organizations.
- Set new or revise existing performance goals/objectives.
- Provide information needed to conduct an evaluation.

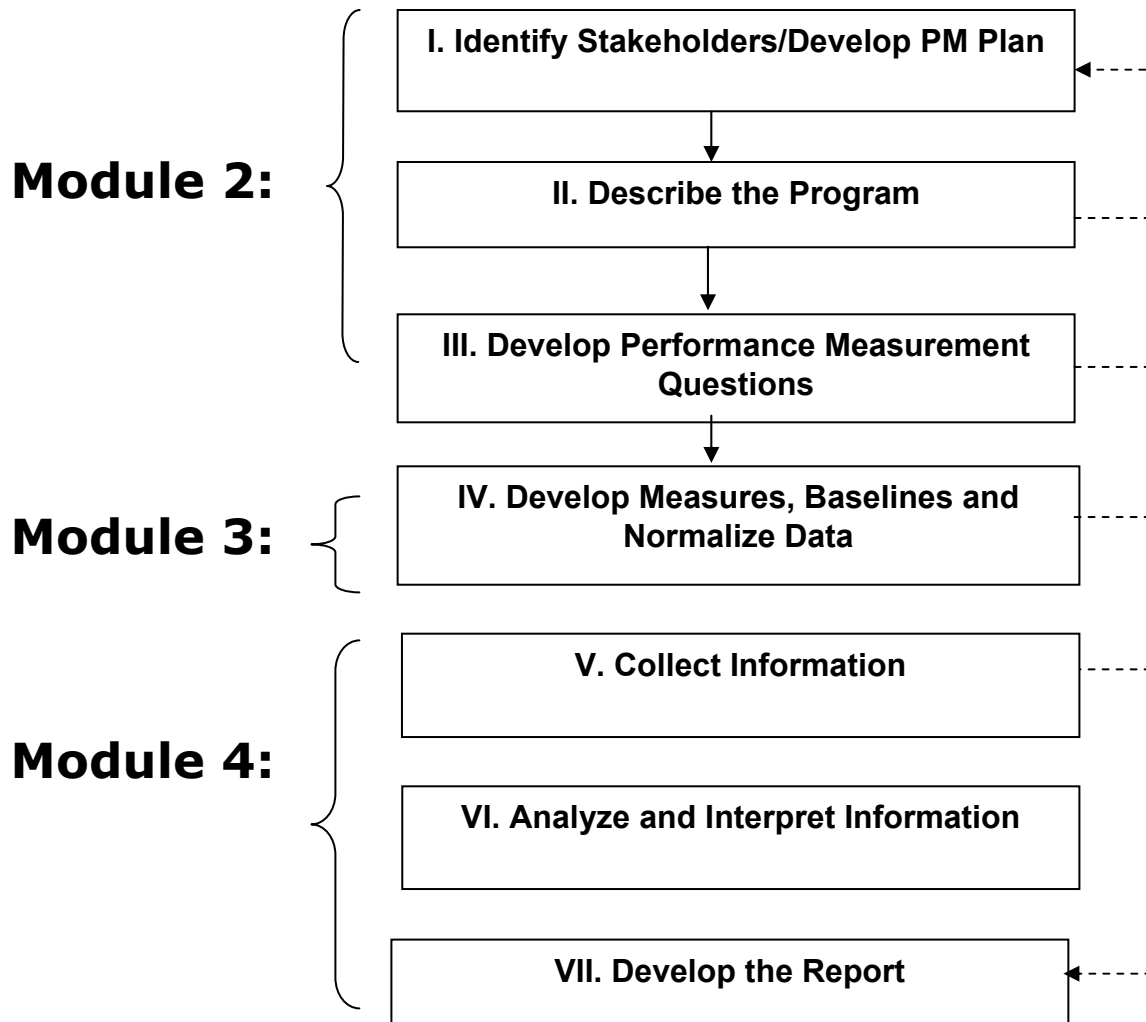
Limitations and Pitfalls in Performance Measures

- Provide descriptive data, not rigorously evaluative.
- Can encourage undesirable behavior such as goal displacement.
- May require too much time and effort.
- Can be ignored, not automatically utilized.

Module 2: Performance Measurement Framework

How NCEI Does It

Performance Measurement Framework



Performance Measurement Training Content

- **Module 1: Building a Common Understanding**
 - Allows participants to develop a common understanding of program evaluation and performance measurement terminology
- **Module 2: Planning for Performance Measurement**
 - Provides participants with the tools (PM Plan and Logic Model) to develop a performance measurement system and to create relevant measures
- **Module 3: Developing Performance Measures**
 - Provides participants with a step by step approach for developing measures
- **Module 4: Collecting and Analyzing Data and Writing the Report**
 - Participants learn about various data collection methods and approaches for analyzing performance data and presenting performance information

Module 3: Tools for Developing Measures

Application of Basic Steps

Identify Stakeholders PM Team

Step A: Identify key stakeholders and team members

- Individuals responsible for designing, implementing and reporting performance measures.
- Staff with intimate knowledge of the program/project.
- Persons with a vested interest in the conduct/impact of the program/project.
- Identify a *SKEPTIC!*

The Performance Measurement Plan (Outline)

Step B: Begin to create the PM Plan

Plan Components:

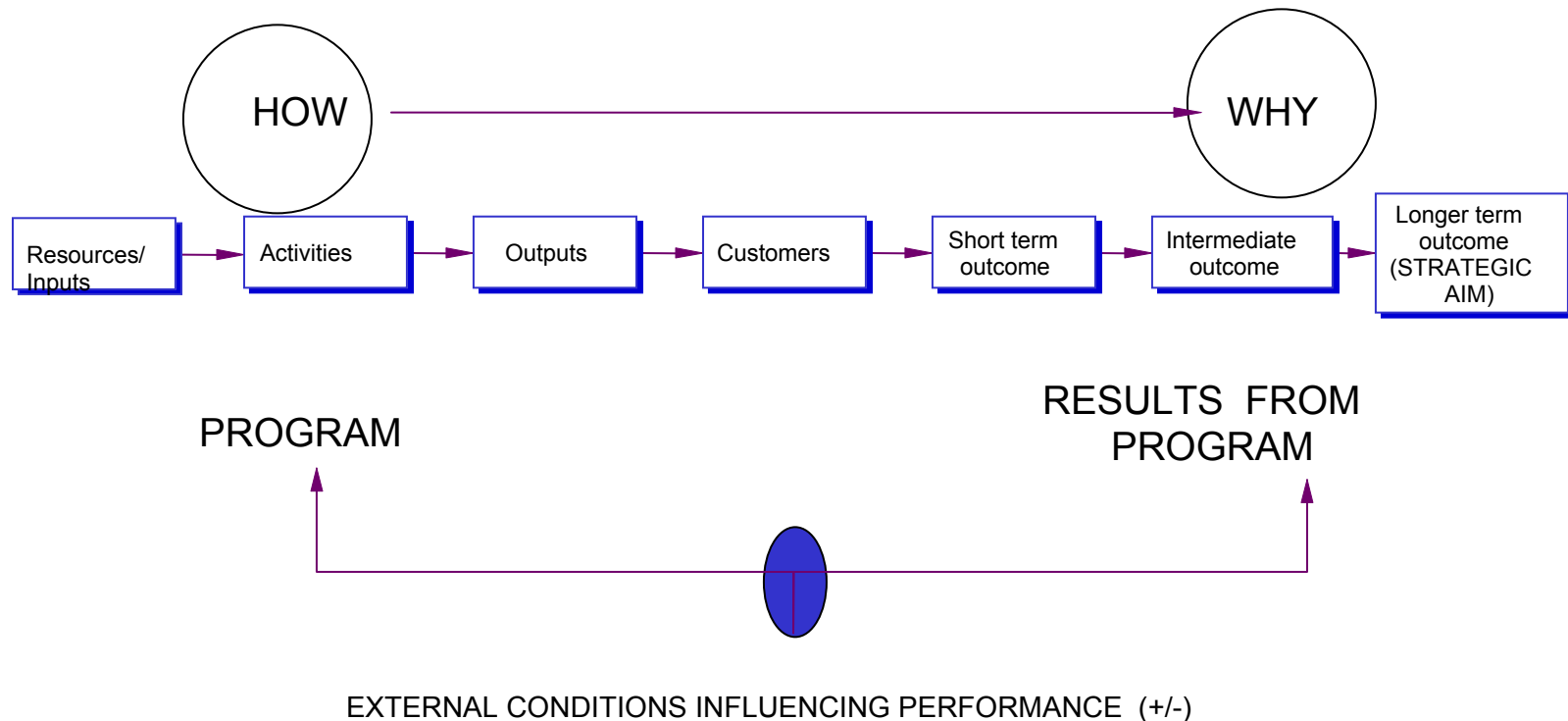
- Project/program mission
- Primary audience
- Scope
 - Program Description/ Logic Model
- Context (organizational, management, political)
- Role, expectations for program staff, participants, and key stakeholders
- Performance measurement questions
- Data collection/analysis
- Reporting
 - Feedback Loop
- Resources (Staff and Budget)
- Timeline
- Communication

Something to Consider

- Successful programs –
 - Have a well articulated, research-based, experience-based theory or road map
 - Follow the road map during the trip

Logic Model

A logic model is a diagram and text that describes/ illustrates the logical (causal) relationships among program elements and the problem to be solved, thus defining measurements of success.



Elements of the Logic Model

- **Resources/Inputs:** Programmatic investments available to support the program.
- **Activities:** Things you do— activities you plan to conduct in your program.
- **Outputs:** Product or service delivery/implementation targets you aim to produce.
- **Customer:** User of the products/services. Target audience the program is designed to reach.
- **Outcomes:** Changes or benefits resulting from activities and outputs.
- *Outcome Structure*
 - Short-term (**Attitude**)— Changes in learning, knowledge, attitude, skills, understanding
 - Intermediate (**Behavior**) – Changes in behavior, practice or decisions
 - Long-term (**Condition**) – Changes in condition
- **External Influences:** Factors that will influence change in the affected community.

Benefits of Logic Modeling

- Communicates the performance story of the program or project.
- Focuses attention on the most important connections between actions and results.
- Builds a common understanding among staff and with stakeholders.
- Helps staff “manage for results” and informs program design.
- Finds “gaps” in the logic of a program and work to resolve them.

Steps in the Logic Model Process

1. Establish a stakeholder work group and collect documents.
2. Define the problem and context for the program or project.
3. Define the elements of the program in a table.
4. Verify the logic table with stakeholders.
5. Develop a diagram and text describing logical relationships.
6. Verify the Logic Model with stakeholders.
 - Then use the Logic Model to identify and confirm performance measures, and in planning, conducting and reporting performance measurement and evaluation.

Step 3. Define the elements of the program or project in a table.

- HOW -				Outcomes		
Resources/ Inputs	Activities	Outputs	Customer Reached	Short-term <i>(Change in Attitude)</i>	Intermediate <i>(Change in Behavior)</i>	Long-term <i>(Change in Condition)</i>

External Influences:

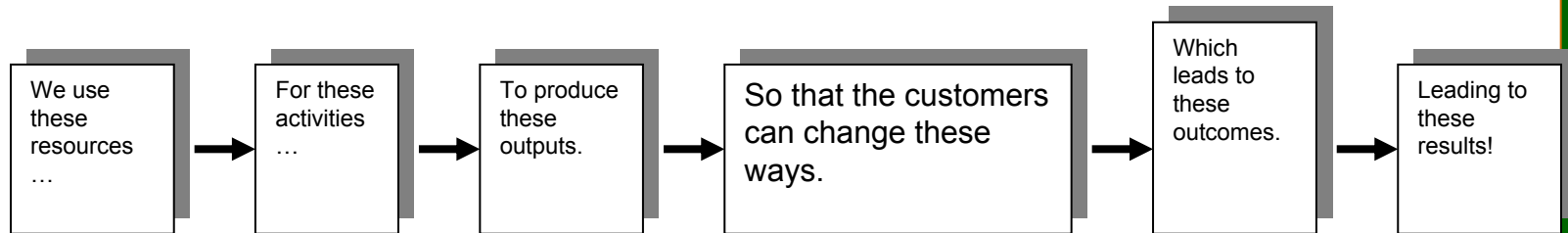
Step 4. Verify the logic table with Stakeholders.

Resources/ Inputs	Activities	Outputs	Customers Reached	Outcomes		
				Short-terms <i>(Changes in Attitude)</i>	Intermediate <i>(Changes in Behavior)</i>	Long-term <i>(Changes in Condition)</i>
5 ESD Staff \$65K Extramural funds Outside Consultant	Develop training materials. Deliver Training.	PE /PM Training Materials. EPA Managers and staff complete training. Innovation Training Materials.	NCEI Staff IAC Staff PEN PEC 04' OSWER OW States HQ/Regional managers & staff	Knowledge of program PM/PM increased. Customers equipped with skills to manage and conduct evaluations.	Number of evaluations conducted and managed increased. Program evaluation skills are used by customers in the work environment.	Evaluation culture established. Quality of evaluations managed and conducted is improved. ↓ Improvements in
						effectiveness of programs leading to better
						environmental results

External Influences: Budget is reduced for next FY.

Step 5. Develop a diagram and text describing logical relationships.

- Draw arrows to indicate/link the causal relationships between the logic model elements.



- Limit the number of arrows. Show only the most critical feedback loops.
- Work from both directions (right-to-left and left-to-right)
- There are many different forms of logic model diagrams.

Logic Modeling Exercise: 1

- Brief application of logic modeling



Developing Performance Measurement Questions

Who needs to know what about the program, why, and in what format?

Performance Measurement Questions

- What are they?
 - Questions designed to assess progress/ accomplishments of various aspects of a program/project.
 - Performance measurement questions ask/tell you what your program is doing.

Performance Questions Across the Performance Spectrum

PROGRAM ELEMENTS:	Resources (We use These)	Activities/ Outputs (To do these things)	Target Customer (For these people)	Short term Outcome (To change them in these ways)	Intermediate Outcome (So they can do these things)	Long-Term Outcome (So they can do these things)
PERFORMANCE QUESTIONS:	<ul style="list-style-type: none"> ▪ Do we have enough, ▪ The right, ▪ The necessary level, ▪ The consistency? 	<ul style="list-style-type: none"> ▪ Are we doing things the way we say we should? ▪ Are we producing products and services at the levels anticipated? ▪ According to anticipated quality indicators measures? 	<ul style="list-style-type: none"> ▪ Are we reaching the customers targeted? ▪ Are we reaching the anticipated numbers? ▪ Are they satisfied? 	<ul style="list-style-type: none"> ▪ Did the customer's understanding, knowledge, skills or attitude change? 	<ul style="list-style-type: none"> ▪ Are customers using the information, knowledge, skill and/or attitude change as expected? ▪ With what results? ▪ Are customers served changing in the expected direction/level? ▪ If so, what did we (others) do to cause the change? 	<ul style="list-style-type: none"> ▪ What changes in condition have occurred? ▪ Did the program achieve its goals and objectives?
EXTERNAL CONDITIONS:	What factors might influence my program's success?					

Types of Performance Measures

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Work Quality Measures

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Examples of Performance Measures Across the Performance Spectrum

PROGRAM ELEMENTS:	Resources (We use These)	Activities/ Outputs (To do these things)	Target Customer (For these people)	Short term Outcome (To change them in these ways)	Intermediate Outcome (So they can do these things)	Long-Term Outcome (So they can do these things)
PERFORMANCE MEASURES:	<ul style="list-style-type: none"> ▪ Cost per product ▪ Program cost per year 	<ul style="list-style-type: none"> ▪ # and % of products produced ▪ # and % of training classes conducted 	<ul style="list-style-type: none"> ▪ % and % of target customer reached ▪ # and % of clients participating in the program ▪ # and % of customers reporting satisfaction with program 	<ul style="list-style-type: none"> ▪ # and % of customers more knowledgeable about the issue ▪ # and % of customers with new skills 	<ul style="list-style-type: none"> ▪ # and % of customers using the information ▪ # and % of customers adopting new practices 	<ul style="list-style-type: none"> ▪ environmental improvements as a result of behavior changes ▪ reductions in health risks as a result of behavior changes
EXTERNAL CONDITIONS:	<p>What factors might influence my program's success?</p> <ul style="list-style-type: none"> ▪ Changes in rules ▪ Changes in economy 					

Steps for Developing Measures

- Step 1: Identify and Define the Measures
- Step 2: Evaluate/Assess the Measures
- Step 3: Choose the Most Important Measures

Step 1: Identify and Define the Measures

■ Type of Data

Raw Numbers (tons of VOCs reduced)

Averages (mean tons of VOCs reduced)

Percentages (% of dry cleaners reporting VOC reduction)

Ratios (Cost per ton of VOCs reduced)

Rates (tons of VOCs reduced per 100 dry cleaners)

■ Unit of Measure

Is it appropriate to the measure? Are supporting data available in this specific unit of measure?

Step 2: Evaluate the Measures

- Evaluate/assess the feasibility of the measures in terms of:
 - data quality
 - data collection
 - analysis
 - reporting

Step 3: Choose the Most Important Measures

- Assess the value of the measures in relation to the goals and objectives of the program.
 - Required
 - Important
 - Interesting

- Select final list of measures – you won't be able to collect data for all measures.
 - Targets
 - Timelines
 - Baselines

- Check in with managers and stakeholders

Criteria for *Useful* Performance Measures

Is each measure:	If so, then it will be:
Objective-linked	Directly related to clearly stated objectives for your program.
Responsibility-linked	Matched to specific organizational units and people that are responsible for <u>AND</u> capable of taking action to improve performance.
Organizationally acceptable	Valued by all levels in the organization, used as a management tool, and viewed as being “owned” by those accountable for performance.
Comprehensive	Inclusive of all relevant aspects of the program performance; e.g., measuring quality and quantity.
Credible	Based on accurate and reliable data sources and methods, and to the extent possible, not open to manipulation or distortion.
Cost-effective	Acceptable in terms of data collection, processing, and reporting.
Compatible	Integrated with existing information systems.
Comparable with other data	Useful in making comparisons; e.g., performance can be compared from period to period, with peers, to other programs.
Easy to interpret and report	Presented graphically and accompanied by commentary!

Tips for Developing Measures

For each measure ask...

- Does the measure clearly relate to the project goal and objective?
- Is the measure important to management and stakeholders?
- Is it possible to collect accurate and reliable data for the measure?
- Taken together, do the measures accurately reflect the key results of the program, activity or service?
- Is there more than one measure for each goal and/or objective?
- Are your measures primarily outcome, efficiency or quality measures?

Performance Measures: Exercise 2

Developing performance measurement questions and the corresponding performance measures.

Performance Measurement Exercise: 2

Developing performance measures

Performance Measurement Exercise: 2

Activities
<ul style="list-style-type: none">• Assist with preparation and implementation of Reduction Plans and meeting regulatory requirements through site visits and follow-up visits, training seminars and workshops, fielded phone calls, educational materials, etc.
Resources (FY 03)
<ul style="list-style-type: none">• 6.6 FTE• \$ 0.52 million

- Are resources sufficient?
- Are resources allocated to the right priorities?

Performance Measurement Exercise: 2

Outputs	Customer
<ul style="list-style-type: none">• Site visits and follow-up visits• Recommendations• Training seminars and workshops• Published information and outreach materials• Fielded phone calls• Public meetings	<ul style="list-style-type: none">• Large Quantity Generators of hazardous waste• Small Quantity Generators of hazardous waste• Conditionally-Exempts Generators of hazardous waste• Reporters to the Toxic Release Inventory

- Do we have the right mix/level of outputs?
- What is the cost to deliver the output?
- Are we reaching the right customers?
- Are customers satisfied with the quality of the outputs?
- Are outputs developed and delivered efficiently?

Performance Measurement Exercise: 2

Knowledge Outcomes	Behavioral Outcomes	Environmental Outcomes
<ul style="list-style-type: none">• Regulated entities increase understanding of regulations and what it will take to achieve regulatory compliance• Regulated entities increase understanding of “beyond compliance” options	<ul style="list-style-type: none">• Regulated entities implement Reduction Plan recommendations• Coordination increases between trade associations, local colleges, regulated entities, and local governments• Regulated entities more safely manage hazardous waste and toxic chemicals during storage and transportation• Regulated entities improve compliance and “beyond compliance” rates	<ul style="list-style-type: none">• Regulated entities use fewer toxic chemicals and generate less hazardous waste• Regulated entities safely dispose of toxic chemicals and hazardous waste• Regulated entities reduce the severity of toxic and hazardous spills

- Do generators understand the regulations?
- Has there been an increase in compliance and beyond compliance rates?
- Has hazardous waste generation decreased?



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