

DOE 450.1

**ENVIRONMENTAL PROTECTION
PROGRAM WORKSHOP**

Integration of Pollution Prevention Into
Environmental Management Systems

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Background

- Pursuant to Order 450.1, line managers (NNSA, EM, SC, etc.) are responsible for ensuring that site Integrated Safety Management Systems (ISMS) include an Environmental Management System (EMS) that integrates pollution prevention into site
 - policy
 - planning
 - execution
 - and evaluation of Departmental operations

Background (cont).

- DOE defines pollution prevention as any action that
 - reduces or eliminates
 - generation of waste
 - release of pollutants into the environment, or
 - use of ozone-depleting substances (ODSs)
 - through source reduction, or re-use, segregation or recycling of materials

Pollution Prevention Expectations

- DOE Order 450.1 states the expectation that pollution prevention will be integrated into EMS and ISMS
- Pollution prevention is not a stand-alone program; rather it is incorporated into the day-to-day operations at DOE facilities.
- EO 13148 states the expectation that pollution prevention will be used to achieve and maintain compliance at Federal facilities.

Pollution Prevention Expectations (cont)

- Source reduction will be first choice to reduce environmental impacts at DOE facilities through:
 - process or procedure modification
 - equipment or technology modification
 - substitution of raw materials
 - improvements in inventory control
 - others

Environmental Interactions

- Identify site activities, products and services.
- Identify which aspects of those activities, products or services interact with the environment, for example (based on EPA video):

<u>ACTIVITY</u>	<u>ASPECT</u>
<u>Analysis of</u>	<u>Waste generation</u>
<u>samples</u>	<u>Energy consumption</u>
<u></u>	<u>Water consumption</u>
<u></u>	<u>Chemical resources</u>
<u></u>	<u>Paper consumption</u>
<u></u>	<u>Air emissions</u>
<u></u>	<u>Microbial contamination</u>
<u></u>	<u>Wastewater discharge</u>
<u></u>	<u>Radiation</u>

Environmental Impacts

- Identify the significant environmental impacts of those aspects and ask how these affect your mission

<u>ASPECT</u>	<u>ACTIVITY</u>	<u>IMPACTS</u>
<u>Waste</u>	<u>Analysis of</u>	<u>Regulated arena</u>
<u>Generation</u>	<u>samples</u>	<u>Health and Safety</u>
		<u>exposure</u>
		<u>Landfill space</u>
	<u>Office work</u>	<u>Landfill space</u>
	<u>Painting</u>	<u>Regulated arena</u>
		<u>Health and Safety</u>
		<u>exposure</u>
	<u>Chemical</u>	<u>Regulated arena</u>
	<u>Disposal</u>	<u>Health and Safety</u>
		<u>exposure</u>

Regulatory Requirements

- Resource Conservation and Recovery Act (RCRA), Hazardous and Solid Waste Amendments of 1984
- Emergency Planning and Community Right-to-Know Act (EPCRA)
- Pollution Prevention Act of 1990

Other Requirements

- Secretarial goals such as the November 12, 1999, Secretarial memo on Pollution Prevention and Energy Efficiency Leadership Goals
- DOE 450.1
- Pollution prevention is found throughout all “Greening the Government” Executive Orders
- Site-specific goals

Environmental Objectives and Targets

- **Objective** (DOE-wide) reduce generation of hazardous waste by 90 percent by 2005, based on 1993 baseline
- **Target** (site-specific; mission priority)
 - Reduce generation of hazardous waste by 30 percent by 2005, using a 1993 baseline
 - Perform pollution prevention opportunity assessments by a certain date to identify
 - waste generating processes
 - pollution prevention actions

Implementation and Operation

- Consider the identified targets for funding
- Train everyone associated with meeting the objectives and implementing the targets so they understand their role
- Implement cost-effective pollution prevention actions

Checking and Corrective Action

- Foster concept of continuous improvement
 - Monitor progress toward reaching objectives and targets
 - Determine what didn't work
 - Correct and try again
 - Reward success – DOE P2 Awards, FEMP Awards, National Awards