SECTION 6 - POLLUTION PREVENTION

Table of Contents

Synopsis

NOTE: This section is promulgated to ensure an effective pollution prevention program is created and implemented at all NWS facilities and work sites.

The section applies to all NWS facilities and work sites.

Initial Implementation Requirements:

- Appoint a Pollution Prevention (P2) Program Coordinator (6.7)
- Compare Site/Facility Operations with the Requirements of this Section:
  - Review application of P2 approaches at facility (6.7)
    - Source reduction

      - Ensure all operating practices have been reviewed and if necessary modified to minimize pollution

    - Inventory control

      - Establish an Authorized Use List (AUL) of items necessary and environmentally appropriate for mission performance
      - Ensure waste reduction purchase policies are followed
      - Ensure review of government listings and websites providing suggestions for the purchase of environmentally preferable products and services (Section 9 - Procurement)

    - Recycling

      - Determine items and/or wastes that may be recycled and identify local recycling opportunities
      - Provide receptacles and designated area for collection of recyclables

Recurring and Annual Task Requirements:

- Periodically review AUL for additions/deletions/substitutions (6.7)
- Continued efforts into the use of more efficient practices; the use of less hazardous materials and techniques to control energy and water use (6.7)

Pollution Prevention Checklist	YES	NO	N/A
1. Has a facility/work site Pollution Prevention (P2) Program Coordinator been appointed? (6.7)	___	___	___
2. Has an "authorized use list" been assembled? (6.7)	___	___	___
3. Have waste reduction purchase policies been followed to eliminate wasteful/unnecessary purchases? (6.7)	___	___	___
4. Have recycling opportunities been identified? (6.7)	___	___	___
➢ Are recycling centers located to enhance participation?	___	___	___

SECTION 6 - POLLUTION PREVENTION

6.1 Purpose and Scope

While the NWS does not produce large quantities of waste, a comprehensive environmental management program requires consideration of the ways in which pollution can be eliminated or reduced from the activities undertaken at NWS facilities or work sites.

6.2 Definitions

Authorized Use List — A list of supplies, especially hazardous materials, approved for purchase after review of environmental, safety and health considerations

Operating Unit — Includes the National Centers for Environmental Prediction (NCEP), National Data Buoy Center (NDBC), NWS Training Center (NWSTC), National Reconditioning Center (NRC), National Logistics Support Center (NLSC), Radar Operations Center (ROC) or the Sterling Field Support Center (SFSC).

Pollution Prevention — The use of materials, processes, or practices that reduce or eliminate the creation of pollutants or waste at the source

Station Manager — For the purpose of this procedure, the Station Manager shall be either the NWS Regional Director; NCEP Director; Directors of Centers under NCEP (Aviation Weather Center, NP6; Storm Prediction Center, NP7; Tropical Prediction Center, NP8, and Space Weather Prediction Center, NP9); Directors of the NDBC, NWSTC, and Chiefs of NRC, ROC and SFSC facilities; or Meteorologist in Charge (MIC), Hydrologist in Charge (HIC), or Official in Charge (OIC).

6.3 Acronyms Employed in This Section

AUL	Authorized Use List
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
HM	Hazardous Material
HSWA	Hazardous & Solid Waste Amendments
HW	Hazardous Waste
MSDS	Material Safety Data Sheet
SECO	NOAA Safety and Environmental Compliance Office
NPDES	National Pollutant Discharge Elimination System
NWS	National Weather Service
NWSH	National Weather Service Headquarters

PPA	Pollution Prevention Act
P2	Pollution Prevention
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TSDF	Treatment, Storage or Disposal Facility

6.4 Regulatory Requirements

The concept of pollution prevention has evolved from the laws that attempted to regulate hazardous waste. Soon after RCRA was passed, it became obvious that if a waste was not created - it did not need to be disposed and the money and effort that would have been required to properly manage it would now be available for other things. The pertinent laws were:

The Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) includes requirements for the management of hazardous waste from the process of generation, throughout storage or accumulation and transportation to the treatment, storage, or disposal facility (TSDF). The use of pollution prevention as a "Best Management Practice" is the only alternative to this "cradle to grave" regulatory control.

Section 6002 of RCRA specifically requires Federal Agencies and their contractors to:

- Buy EPA-designated products with a recycled content if the agency or the contractor spends more than $10,000 annually on that item.
- Purchase the highest percentage of recovered materials practicable.
- Eliminate contract language that excludes the purchase or use of recovered materials.
- Have an affirmative procurement plan for purchasing EPA-designated products

The Hazardous and Solid Waste Amendments

The Hazardous and Solid Waste Amendments (HSWA) requires generators of hazardous waste to certify on every hazardous waste manifest that a program is in place "to reduce the volume and toxicity of the wastes that are generated." Additionally, the regulations require generators to report changes in volume and toxicity of waste actually achieved during the past year.

The Pollution Prevention Act of 1990

The Pollution Prevention Act (PPA) was passed in 1990 to legally establish the concept that "source reduction is fundamentally different and more desirable than waste management and pollution control." The law establishes the national policy that requires all reasonable attempts be made to prevent or reduce pollution at the source whenever feasible. Pollution that cannot be prevented should be recycled in an environmentally-safe manner whenever feasible. Disposal or other release into the environment should be employed only as a last resort and must be done in an environmentally safe manner.

6.5 Executive Orders

A number of executive orders specify Federal responsibilities toward environmental issues and include pollution prevention components.

Table 1. Executive Orders

Executive Order Number	Title
13423	*Strengthening Federal Environmental, Energy, and Transportation Management*, dated January 24, 2007
13514	*Federal Leadership in Environmental, Energy, and Economic Performance*, dated October 9, 2009.
13693	*Planning for Federal Sustainability in the Next Decade*, March 19, 2015

6.6 Pollution Prevention Defined

In order to understand the potential for application of "pollution prevention" (P2) throughout an organization and its operations, the EPA defines pollution prevention as "the use of materials, processes or practices that reduce or eliminate the creation of pollutants or waste at the source. It includes practices that reduce the use of hazardous materials, energy, water or other resources and practices that protect natural resources through conservation or more efficient use."

Executive Order 13423 requires Federal agencies to prevent pollution whenever feasible, incorporate waste prevention and recycling into daily operations, increase procurement of environmentally preferable items, expand existing affirmative procurement and recycling programs, establish model facility demonstration projects, integrate P2 and affirmative procurement into acquisition programs, and establish goals for reduction of solid waste generation and increased procurement of environmental preferable items. Executive Order also reemphasizes Federal agency requirements to reduce pollutant releases to the environment, prevent pollution, source reduction, and to use P2 as the preferred method of environmental compliance.

6.6.1 Green Procurement

All NWS offices will consider green products and/or services as the first choice in all procurements, including service contracts. Green procurement is the cornerstone of source reduction to prevent pollution.

6.6.2 Pollution Reduction

All NWS facilities should identify and implement source reduction opportunities to reduce releases of toxic chemicals to the environment, off-site transfer of such toxic chemicals for treatment and disposal, and generation and disposal of hazardous and non-hazardous solid wastes. Facilities should wherever feasible, utilize opportunities to substitute less hazardous chemicals and substances and attempt to increase on- and off-site recycling of hazardous and non- hazardous wastes and increase procurement of environmentally preferable products and services.

Hazardous Material (HM) Control

NWS facilities can reduce the amount of HM used, and HW generated through up front HM control in procurement, supply, and use by:

a. Developing local mechanisms at facilities to identify materials in use that are hazardous and limiting quantities of HM procured and stored. Facilities will establish HM AULs to control the quantity of HM procured and stored.

b. Establishing methods for substituting a less HM or non-HM for HM, where possible.

c. Developing and incorporating new technology or materials that have a reduced impact upon the environment, are safer and healthier, or result in reduced emissions.

d. Developing and implementing accurate HM inventory controls to reduce the generation of waste because of shelf life expiration, when possible.

e. Actively seeking out other authorized users of HM to avoid shelf life expiration and the creation of HW.

f. Modifying units of issue to reduce the generation of waste because of unused surplus material.

g. Reviewing local documentation that directs the use of HM to determine possible changes to minimize further the use of HM and generation of HW.

h. Reviewing standardized documents, including specifications and standards, to identify opportunities to stop or reduce use of extremely hazardous substances and toxic chemicals, consistent with the safety and reliability requirements of its mission.

i. Integrating environmental/safety and occupational health considerations into all acquisition and procurement actions.

P2 Committee

P2 is a multi-disciplinary effort that requires participation from many functional areas of Department organizations to be successful. While organization environmental personnel can and should take the lead to implement P2 opportunities, successful implementation requires the participation and support of functional areas including supply, acquisition/contracts, safety, systems maintenance, public works, and operational elements. Facilities that require a permit from their State for generation and/or storage of hazardous waste are encouraged to establish a P2 committee to consult management on P2.

6.7 Approaches to Pollution Prevention

Application of P2 practices on a daily basis in all areas of a facility's practices is the only sure way of affecting a successful program. Techniques for reducing waste and pollution vary in complexity, effectiveness, time and cost. Using the PPA's protocol to P2, source reduction is identified as the first and most desirable option to reduce a facility's impact on the types and amounts of pollution produced.

Source Reduction

From an environmental standpoint, source reduction is the preferred means of minimizing waste. Source reduction reduces or eliminates the generation of pollution at the source.

Source reduction techniques include such items as the establishment of good management practices, process modifications, and material substitution. Source reduction includes any action that reduces the amount of waste left over when a job is completed.

Congress specifically stated in the PPA that "source reduction does not entail any form of waste management and excludes any practice which alters the physical, chemical or biological characteristics or volume of a hazardous substance, pollutant or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service."

a. Operating Practices

   Good management practices are procedures or administrative measures that are applied in the workplace in order to minimize pollution. Many are seen as management improvements which involve procedural or organization activities rather than technology, thus having little or no implementation cost.

   1) Management and Personnel Practices

      As a way to ensure the success of proposed minimization goals, employee support must be gathered. This effort can be accomplished through employee training programs, incentives and bonuses to encourage employees to conscientiously strive to reduce waste.

   2) Material Handling and Maintenance

      This area includes the reduction in loss of materials due to mishandling, housekeeping practices, and improper storage. Investigation of inventory management practices will help to eliminate inefficient practices and/or operations. For example, prevention of spills and leaks by using drip pans and catchment basins during storage, keeping containers of solvents or cleaners closed when not in use and ensuring equipment is maintained and operating correctly.

   3) Waste Segregation

      Waste segregation practices can help to reduce the volume of hazardous wastes generated by preventing the mixing of hazardous and non-hazardous wastes. As defined by the "mixture rule" in 40 CFR 261.3(a) (2) (iii) and (iv), such mixture causes the resulting mix to be regulated as a hazardous waste. If segregated, disposal costs are reduced. This action also provides an opportunity for the segregated materials to be included in recycling efforts. For example, used synthetic and petroleum lubricating oil are both recyclable. If mixed together however, they can only be treated as a waste.

   4) Cost Accounting Practices

      Cost accounting practices include programs to allocate the waste treatment and disposal costs directly to the areas or groups that generate the waste. This practice

makes the groups more aware of the effects of their disposal practices as well as give a financial incentive to minimize the quantities of waste produced.

5) Production Practices

This area reduces waste by addressing inefficient production start-up or shutdown practices, frequency of equipment cleaning as well as preventive maintenance.

b. Inventory Control

Inventory control is one of the most effective means of controlling an organization's impact on the environment. Purchasing of supplies, especially hazardous materials, require consideration of not only cost, but also environmental, safety and health concerns. Many products used by NWS facilities have inherent properties that could be an environmental problem when they are disposed of. This could only be found by reviewing of MSDSs for the environmental recommendations. These issues can be addressed by formulating a hazardous material control program. Such a program controls the types and amounts of material utilized on-site. The program will include:

1) An investigation of all the HM used on-site which is needed to meet job performance requirements.

2) An assessment of the inventory considering environmental, health, safety, storage/handling, cost and procurement issues. The outcome of this review is an "Authorized Use List" (AUL) identifying only those items that are to be used and brought on-site.

3) A person "assigned" to the purchasing of HM in conjunction with the AUL can eliminate unnecessary purchases and ensure waste reduction purchase policies are followed.

After the initial investigation and development of the AUL, it may be appropriate to substitute less hazardous materials, where feasible.

The substitution of non-hazardous materials for hazardous raw materials can greatly reduce the amount of hazardous waste produced. An overall evaluation of the raw materials should consider why an item is hazardous (i.e., it is listed as an ozone-depleting substance, or is reactive, toxic or ignitable) as well as how the product is used. Product substitutions are frequently process/job dependent. The process of substitution requires diligence to ensure that the potentially purchased non-toxic materials do not have other associated handling concerns or costs. Information regarding material substitution can be found at the Hazardous Technical Information Service (HTIS) web site: http://www.aviation.dla.mil/ExternalWeb/UserWeb/aviationengineering/HTIS/

Close control of existing inventories is also important, as it is a possible source of spills, worker exposure, and cause of excessive raw materials in stock. Excess materials present another concern - having their shelf lives expire while in storage. These materials may now need to be disposed of as waste. Oftentimes considering the available "unit-of-issue" prior to purchase will avoid this problem.

Recycling

Recycling promotes pollution prevention by reusing or reclaiming a valuable material from a generated waste product. Recycling includes use and/or reuse of the waste as a raw material by returning it to the original or a new process.

Some commonly generated "waste" at a work site may have an opportunity to be recycled with available proven technologies. Aluminum cans, plastics, CDs, packing materials ("peanuts" and cardboard), newspaper, white office paper, vehicle tires, and ink cartridges are a few examples. Many communities include pick-up and management of these waste streams with the regular trash pick-up. Others have drop-off centers for recyclables. The Program Coordinator will identify local recycling opportunities and initiate the collection of these recyclables at the work site. The collection points will be conveniently located and identified to ensure maximum participation by site personnel.

Energy

Pollution prevention extends into areas well beyond the direct production and use of chemicals. It need not involve high-tech, high-cost technologies. Often, everyday common sense procedures will have a significant long-term effect.

Energy efficiency is an area that cuts across many sectors. The creation and use of energy usually entails some environmental damage. The combustion of fossil fuels by utilities/industries releases carbon dioxide, sulfur dioxide and nitrogen dioxide. Other types of pollution result from mining and transporting fossil fuel stocks and disposing of energy plant wastes.

Anyone can foster energy savings by shutting off equipment and lights when not in use, lowering thermostats, and purchasing energy-efficient products. The P2 Coordinator or other designated person will investigate energy usage at the work site and ways to increase efficiency and/or decrease or control energy consumption through appropriate/practical means.

Water

Water conservation and efficient water use can have a positive impact on the environment. Identification and repair of leaks or dripping faucets can add up to significant savings. In applications where large quantities of water are utilized, an investigation will be undertaken to determine the feasibility of decreasing the amount needed or whether reuse may be an option.

6.8 Responsibilities

NWS Headquarters (NWSH)

a. The NWSH Environmental/Safety Office will provide assistance to Regional Headquarters, Operating Unit, and field personnel to ensure that NWS facilities comply with this section.

b. NWSH will coordinate with NOAA SECO, as necessary, regarding compliance issues related to this section.

Regional or Operating Unit Environmental/Safety Coordinator

a. Will monitor and promote compliance with the requirements of this section at the Regional Headquarters and field offices or operating units

b. Will ensure that applicable procedures are implemented at Regional Headquarters or operating unit facilities

Station Manager

a. Will have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NWS facility

b. Will ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section

c. Will review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review will be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.

Environmental or Environmental/Safety Focal Point or Designated Person

a. Will ensure any tasks delegated to them by the Station Manager are implemented in accordance with the requirements of this section.

b. Will review MSDSs for all purchased products and materials for environmental regulatory and disposal requirements.

Employees

a. Individual employees affected by this section are required to read, understand, and comply with the requirements of this section.

b. Report all violations of the requirements of this section to their supervisor or Environmental Focal Point.

6.9 References

6.9.1 EPA, OSHA and DOT Regulations

40 CFR 355, Regulations for Emergency Planning and Notification under CERCLA;

49 CFR 173, Shippers - General Requirements for Shipments and Packaging;

29 CFR 1910.1200, OSHA HAZCOM Standard;

40 CFR 261, Identification and Listing of Hazardous Waste;

40 CFR 302, EPA Designation, Reportable Quantities and Notification Requirements for Hazardous Substances under CERCLA;

40 CFR 372, Toxic Chemical Release Reporting, Regulations

6.9.2 Executive Orders

E.O. 13423, Strengthening Federal Environmental, Energy, and Transportation Management, dated January 24, 2007;

E.O. 13514, Federal Leadership in Environmental, Energy, and Transportation Management, dated October 9, 2009.

E.O. 13693, Planning for Federal Sustainability in the Next Decade, March 19, 2015

6.9.3 Department of Commerce and NOAA

Commerce Acquisition Manual, Chapters 1323.70 and 1313.301
NOAA Energy and Environmental Management Manual