NIH Policy Manual

3032 - Environmental Management and Waste Minimization at the NIH

Issuing Office: OD/OM/ORFDO/DEP **Phone:** (301) 496-7990

Issuing Office Email: DEPWasteResource@mail.nih.gov

Issuing Office Website:
https://www.orf.od.nih.gov/AboutORF/Organization/Pages/dep_info.aspx

Release Date: 3/25/2019 ? **Technical Revision Date:** 4/11/2019 ?

Transmittal Notice

1. **Explanation of Material Transmitted:** This chapter is being revised to reflect changes in laws, regulations and executive orders that have occurred since the previous issuance and to reflect updates to waste management procedures. The Division of Environmental Protection (DEP) in the Office of Research Facilities Development and Operations (ORFDO) is responsible for environmental compliance for the National Institutes of Health (NIH). This includes the administration, interpretation and overseeing of the applicable environmental laws, Executive Orders and regulations for the NIH, including but not limited to the management of waste generated in facilities owned or leased by the NIH.
2. **Filing Instructions:**

   Remove Manual Issuance 3032, dated 04/24/2012

   Insert Manual Issuance 3032, dated 03/25/2019

PLEASE NOTE: For information on:

- Content of this chapter, contact the issuing offices listed above, or enter this URL: Description of Division of Environmental Protection (DEP).
- NIH Policy Manual, contact the Division of Management Support (DMS), Office of Management Assessment (OMA) on 301-496-4606, or enter this URL: Description of the Office of Management Assessment (OMA).

A. Purpose

This chapter establishes the environmental policy for managing sustainability and environmental issues at the all National Institutes of Health (NIH) facilities, with strict adherence to current Federal (e.g. Pollution Prevention Act, Clean Air Act, Executive Orders), State (e.g. Code of Maryland Regulations), and local regulations and permit requirements (e.g. Washington Suburban Sanitary Commission (WSSC)-Industrial Discharge Control Program; Durham, North Carolina-Stormwater Management and Pollution Control Ordinance).

B. Scope

This policy applies to all NIH personnel, contractors and/or anyone involved with the generation of waste or waste management and support services at all NIH facilities.

C. Background

All Federal departments and agencies including the NIH are required by federal law to protect the environment and preserve the use of natural resources. This policy supports efforts that promote sustainable NIH environment, conservation of energy and water, and where feasible, elimination or reduction of the amounts and toxicity of waste at their source and proper management of all unavoidable waste and recyclable materials. In general, all chemical wastes are to be collected and disposed by an NIH approved chemical waste service.

D. Policy

1. The ORF Division of Environmental Protection (DEP) manages NIH compliance with environmental laws, regulations and requirements. The DEP serves as the point of contact for environmental regulators, acquires permits required for operations and monitors compliance, working with NIH staff to resolve compliance concerns.
2. The NIH must follow the national policy declared by the Congress of the United States in the Pollution Prevention Act of 1990 (42 USC 133) by ensuring that all wastes and pollutants from all of its mission activities are managed in accordance with the hierarchy of methods listed in the Act EPA Sustainable Material Management. Waste Management Hierarchy follows under four different categories:

    a. Whenever feasible, pollutants and wastes should be prevented or reduced in quantity and toxicity at the source;
    b. Pollutants and wastes that cannot be prevented should be beneficially reused or recycled in an environmentally safe manner;
    c. Non-recyclable waste materials should be used for energy recovery. Pollutants and waste which cannot be reused or recycled should be converted into usable heat, electricity, or fuel through a variety of process; and

d. Disposal of chemicals or radioactive materials used or unused, including pharmaceutical wastes, in the sanitary sewer is prohibited, unless authorized by the DEP. Please refer to the NIH Waste Disposal Guide and the Application for Disposal of Specific Chemical Reagents to the Sanitary Sewer and NIH Manual Chapter1341- Working with Radioactive Materials or Radiation Producing Machinery. The NIH chemical waste service treats certain waste on-site instead of disposing at off-site facilities.Waste Management Hierarchy

The hierarchy ranks the various management strategies from most to least environmentally preferred. The hierarchy presented in an inverted pyramid places emphasis on Source reduction and reuse, Recycling and composting, Energy recovery, Treatment and Disposal.

3. The NIH must follow all applicable Federal, State and Local laws and regulations, permits and licenses, and executive orders pertaining to environmental and waste management, including but not limited to, the requirements found in Section G References.
4. The NIH waste management activities must be in conformance with the following policies and any amendments to them:

    a. HHS General Administration Manual Part 30 Environmental Protection,
    b. NIH Environmental Management System (NEMS)
    c. NEPA Review at NIH.
    d. HHS Sustainability Performance Plan

E. Responsibilities

1. The Division of Environmental Protection (DEP), ORFDO has overall responsibility for environmental and waste management activities at NIH facilities including:

    a. Assisting the NIH Institutes and Centers (ICs) in meeting requirements for affirmative procurement of products and services that maximize environmental performance and minimize generation of wastes;
    b. Developing and issuing technical assistance and guidance to the ICs in managing wastes and complying with related regulatory requirements;
    c. Setting waste reduction goals, tracking progress and complying with reporting requirements for waste reduction as required by Executive Orders and by the NIH Environmental Management System (NEMS);
    d. Overseeing and providing waste management and disposal services necessary to support NIH facilities;
    e. Serving as the central NIH information repository on management of wastes generated during the conduct of biomedical research and;

f. Reporting discharges and/or releases to the appropriate environmental regulatory agencies as required; and
g. Serving as the liaison between Federal, State and Local officials responsible for Environmental regulatory compliance.

2. **The Division of Radiation Safety (DRS), Office of Research Services (ORS)**, provides training, technical assistance and health physics services to the ICs on radiation safety, radioactive and mixed waste management, and ensures compliance with Nuclear Regulatory Commission (NRC) requirements relating to management of radioactive wastes generated at Maryland based NIH facilities.
3. **The Division of Occupational Health and Safety (DOHS), ORS**, serves the NIH in occupational safety and health through the administration of programs, policies, and support.
4. **The Division of Fire and Rescue Services (DFRS), ORS**, is responsible for providing first response to fires, medical emergencies and incidents involving spills and strange odors, on the main NIH campus in Bethesda, Maryland and at Rocky Mountain Laboratories located at Hamilton, Montana Or as directed by the Director, ORS.
5. **Employees of the Institutes and Centers (ICs)** who may generate any of the wastes as defined in this Manual Chapter are responsible for:

    a. Purchasing and using environmentally preferable products and services in accordance with applicable regulations, executive branch policies and guidance;
    b. Carrying out all NIH mission activities in a manner that minimizes the volume, toxicity, and radioactivity of the wastes generated;
    c. Complying with all applicable waste management laws, regulations, executive orders, and NIH policies following the discharge approval process for waste going to the sanitary sewers;
    d. Properly managing wastes prior to collection, transfer, and recycling or disposal by appropriate components of the DEP or ICs. This includes ensuring proper segregation of wastes; separation of recyclable materials from other wastes and placement into respective collection containers; decontamination of infectious agents; identification, labeling, packaging, and storing of the waste; and
    e. Implementing NIH and HHS sustainability and environmental management policies and goals. Staff may participate in development of policies through their Institute's Green Team under the NEMS.

6. **The Designated Facility Point of Contact (POC),** at each off-campus NIH Facilities that generates, stores, and ships chemical and/or medical waste to an off-site treatment and disposal facility, is responsible for ensuring that copies of all required environmental regulatory documents are maintained on site at the respective NIH facility. At a minimum, these documents include:

    a. Hazardous waste manifests and the associated Land Disposal Restriction Forms (LDRs);
    b. Facility Contingency Plan (developed in coordination with DEP);
    c. Hazardous waste storage room weekly inspection logs;

d. Hazardous waste biennial reports (developed in coordination with DEP);
e. Record of annual RCRA hazardous waste management training (required training for all POCs and provided through DEP);
f. Record of U.S. Dept. of Transportation (DOT) hazmat transportation/security training (required every three years only for those signing the waste shipment papers and provided through DEP);
g. Regulated Medical Waste shipping papers;
h. Storm water Pollution Prevention Plan (for Municipal Separate Storm Sewer, if applicable); and
i. Pollution Prevention Plan (for General Discharge Permit for discharges from containment or structures, if applicable).

F. Procedures

1. **Waste Disposal** (Recyclable Materials, General Solid Waste, Medical Pathological Waste, Chemical Waste, Radioactive Waste, and Multi-Hazardous Waste)

    a. Please refer to the NIH Waste Disposal Guide (online version) for most up to date disposal procedures. The Guide is available online at following address: https://www.orf.od.nih.gov/EnvironmentalProtection/WasteDisposal/Pages/default.aspx.
    b. To obtain a printed copy of the Guide, please call DEP at 301-496-7990 or your DOHS Health and Safety Consultant at 301-496-2346. For regional facilities, please contact your local safety or environmental consultant. For the PDF version of the Guide, please go to NIH Waste Disposal Guide.

2. **Construction Debris**

    a. Please refer to the Construction Debris Waste Management and Recycling Plan.

3. **Asbestos Guidance**

    a. Asbestos Containing Material Cleanup and Disposal – please contact DEP at 301-496-7990 for guidance.
    b. Asbestos Exposure – please contact DOHS at 301-496-2346 for guidance.

4. **NIH Personal Property-Please refer to the** Movement of Personal Property
5. **Discharge Approval Process** The process established by DEP to evaluate and determine the need for disposal of specific liquid chemical reagents involved in laboratory processes, treatments, and applications into the sanitary sewer, in compliance with the applicable laws and regulations. Existing and previous applications are available at "Application for Disposal of Specific Chemical Reagents to the Sanitary Sewer".
6. **Recycling of Electronic Waste (e-Waste)**

a. NIH Employees and contractors have two options for recycling their personally owned electronics the NIH Personal Electronics Program and the USPS Federal Recycling Program (FRP).
b. All electronic equipment owned by the government will be disposed of in accordance with the Movement of Personal Property Guidelines.

G. References

1. Atomic Energy Act
2. Clean Air Act of 1970 (42 USC 7401 et seq.)
3. Clean Water Act of 1972
4. Comprehensive Environmental Response Compensation and Liability Act of 1980
5. NIH Construction Debris Waste Management and Recycling Plan
6. Executive Order 13693 "Planning for Federal Sustainability in the Next Decade
7. EPA Sustainable Materials Management- Waste Management Hierarchy
8. HHS General Administration Manual Part 30 Environmental Protection
9. Hazardous Materials Transportation Act of 1975
10. NIH Manual Chapter 26101-25-2-9 Movement of Personal Property
11. NIH Manual Chapter 26101-25-2-2 Personal Property Management Guide
12. NIH Environmental Management System
13. National Environmental Policy Act of 1969
14. NIH Manual 1743– Keeping and Destroying Records, Appendix 1
15. NIH Waste Disposal Guide
16. NIH OD Green Initiative: Make Your Event Green
17. Pollution Prevention Act of 1990 (42 USC 133)
18. Pollution Prevention Act of 1990 (42 USC 13101(b))
19. Resource Conservation and Recovery Act (RCRA), 1976
20. Toxic Substances Control Act of 1976
21. Code of Maryland Regulations
22. City of Durham, Storm Water Regulations
23. State of Montana, Water Protection Bureau
24. City of Phoenix, Environmental Sustainability
25. Washington Suburban Sanitary Commission (WSSC), Industrial Discharge Control Program

H. Definitions

1. **Asbestos Containing Materials (ACM)** - discarded materials containing friable or non-friable asbestos fibers.
2. **Bio-Solids Waste** – properly treated and processed sewage sludge becomes bio-solids which are nutrient-rich organic materials produced from wastewater treatment facilities. Bio-solids can be recycled and applied as fertilizer to improve and maintain productive soils and stimulate plant growth.

3. **Chemical Waste** – waste regulated by the U.S. Environmental Protection Agency or individual states as hazardous waste; and other nonradioactive discarded materials that contain or are contaminated with hazardous chemicals at a concentration which is potentially hazardous to human health or safety.
4. **Cytostatic Agent**– A substance that slows or stops the growth of cells, including cancer cells, without killing them. These agents may cause tumors to stop growing and spreading without causing them to shrink in size.
5. **Cytotoxic Agents** – A substance that kills cells, including cancer cells. These agents may stop cancer cells from dividing and growing and may cause tumors to shrink in size.
6. **Construction Debris** - Debris containing bulky heavy materials such as drywall, concrete, wood and glass generated from new construction, renovation or demolition activities at NIH.
7. **Designated Facility Point of Contact (POC)** - As a condition of receiving waste services in the Greater Baltimore Washington Area, all local NIH facilities not located on the Bethesda Campus must designate a POC. The POC is usually the IC Safety Officer or a laboratory worker. (Please note: NIH regional facilities - North Carolina, Montana, and Arizona **-** provide their own waste services.)
8. **Electronic Waste (e-waste)** – Used and/or discarded electrical or electronic devices which are destined for reuse, resale, salvage, recycling or disposal.
9. **General Solid Waste** – Solid waste that is not contaminated with and does not contain hazardous chemicals, radioactive materials or Medical Pathological Waste.
10. **Hazardous Waste –** Any industrial by products or waste materials discarded from residential, commercial establishments and institutions that pose an unreasonable risk to human health and safety, property, and the environment.
11. **Medical Pathological Waste (MPW)/Biomedical** - Waste with presence of anatomical material including human and animal blood, body fluids, pathogenic agents; human tissues, animal carcasses and tissues from biomedical research; animal bedding contaminated with pathogenic agents which cannot be decontaminated through autoclaving; needles, syringes, scalpels and other sharps; materials, including animal bedding with trace contamination of cytotoxic and/or cytostatic drugs; and other discarded materials that are regulated as medical waste by the Federal, state or local laws.
12. **Mixed Waste** – a subcategory of Multi-Hazardous Waste that contains Chemical Waste and Radioactive Waste.
13. **Multi-Hazardous Waste** – wastes that meet the definition of more than one of the following types of waste: Chemical, Radioactive or Medical Pathological Waste.
14. **NIH Environmental Management System (NEMS)** – a tool to improve environmental performance and incorporate sustainability throughout NIH.
15. **NIH Facilities:** Intramural research locations including but not limited to the Bethesda main campus, local off-campus facilities (Baltimore, Frederick, Rockville and Poolesville), regional facilities (North Carolina, Arizona, and Montana) and other facilities used under memorandum of understanding or other agreement.
16. **Pharmaceutical Waste** –Waste from the preparation, use or sale of medicinal drugs including but not limited to expired or unexpired or used or partially used drugs.

Pharmaceutical waste may be hazardous or nonhazardous and can include, preparation materials such as vials, tubing and bags containing trace quantities of pharmaceuticals and/or toxic substances, spilled or left-over liquids and pills, and contaminated personal protective equipment packaging and related discarded items. Pharmaceutical waste is considered hazardous waste if it contains more than trace amounts of a material listed under Federal (RCRA), state or local regulations or exhibits hazardous characteristics of ignitability, corrosivity, reactivity or toxicity.

17. **Radioactive Waste** - any waste that contains or is contaminated with radioactive material that is regulated by the Nuclear Regulatory Commission (NRC).
18. **Recyclable Material** – raw or processed materials that can be recovered from a waste stream for reuse.
19. **Sewage Sludge** – refers to the residual, semi-solid material separated during the treatment of industrial or municipal wastewater (including domestic septage/septic tanks).
20. **Waste** – unwanted or unusable materials or byproducts of something (i.e. bodily waste). Examples include general solid waste, hazardous waste, construction waste, wastewater, MPW, radioactive waste and others.
21. **Wastewater, Sanitary** – liquid waste primarily consisting of water that is discharged to the environment through the sanitary sewer.
22. **Wastewater, Storm** – permitted liquid waste primarily consisting of water that is discharged to the environment through the storm sewer.
23. **Yard waste –** a part of solid waste composed of grass clipping, leaves, twigs, branches, and other garden organic refuse.

I. Records Retention and Disposal

All NIH Waste Management records (e-mail and non-e-mail) pertaining to this chapter must be retained and disposed of under the authority of NIH Manual 1743,"Keeping and Destroying Records," Appendix 1, NIH Records Control Schedule, Section 1300, Item 1300 B “Safety” and Section 7000, Item 7000 C “Environmental Impact.”

NIH e-mail messages, including attachments that are created on NIH computer systems or transmitted over NIH networks that are evidence of the activities of the agency or have informational value are considered Federal records. These records must be maintained in accordance with current NIH Records Management guidelines. Contact your IC Records Liaison or the NIH Records Officer for additional information.

All e-mail messages are considered Government property, and, if requested for a legitimate Government purpose, must be provided to the requester, employees' supervisor, NIH staff conducting official reviews or investigations, and the Office of Inspector General who may request access to or copies of the e-mail messages. E-mail messages must also be provided to Congressional oversight committees if requested and are subject to Freedom of Information Act requests. Back-up files are subject to the same information requests as original messages and documents.

J. Internal Controls

The purpose of this manual issuance is to establish the NIH policy for environmental management and waste minimization at all NIH facilities in compliance with applicable regulations and policies.

1. **Office Responsible for Reviewing Internal Controls Relative to this Chapter:**Through this manual issuance, the DEP is responsible for the methods used to ensure that the internal controls are implemented and working.
2. **Frequency of Review:** Ongoing
3. **Method of Review:** The Division of Environmental Protection (DEP), ORFDO, in coordination with the Division of Radiation Safety (DRS), ORS; the Division of Occupational Health and Safety (DOHS), ORS; the Division of Fire and Rescue Services (DFRS), ORS; and as necessary, the Institutes and Centers' (ICs) representatives, will maintain oversight and ensure effective implementation and compliance with this policy through monitoring waste operations and minimization activities at all NIH facilities.
4. **Review Reports are sent to:** the DEP Director, ORFDO Director, the NIH Deputy Director for Management (DDM), and the NIH Deputy Director for Intramural Research (DDIR). Issues of concern will be brought to the immediate attention of the ORFDO Director.