

PPPL	PRINCETON PLASMA PHYSICS LABORATORY ES&H DIRECTIVES	
	ES&HD 5008 SECTION 7 Waste Management	
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**Waste Management
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1.0 INTRODUCTION

The purpose of this section is to assure the safety of personnel, equipment, and the public during the handling and movement of hazardous wastes at Princeton Plasma Physics Laboratory (PPPL). This section addresses safety requirements and procedure references for the identification, handling and packaging of hazardous wastes. This document does not specifically address all federal, state, and local requirements as they apply to hazardous waste management and is not inclusive of other applicable parts of these regulations. The ERWM Division maintains current versions of all applicable parts of the applicable Code of Federal Regulations (CFRs), including the Environmental Protection Agency (EPA) and U.S. Department of Transportation.

2.0 SCOPE

The provisions of this section apply to all classification, handling, transportation, and packaging of hazardous wastes at PPPL, and are applicable to both Laboratory personnel and outside subcontractors. The hazards associated with the hazardous wastes hereinafter are discussed along with the precautions necessary to avoid injury or property loss.

3.0 DEFINITIONS

- 3.1 **Hazardous Waste** – any waste material regulated as an EPA hazardous waste defined under 40 CFR 261.3 *Definition of Hazardous Waste*.
- 3.2 **Acutely Hazardous Waste** – any waste that is, or contains a material listed as an acutely hazardous waste (denoted by the letter “H”) as listed in 40 CFR 261.33 (e).
- 3.3 **Satellite Accumulation** - The practice of collecting up to fifty-five (55) gallons of one compatible hazardous waste stream at or near the waste generating process which is under the control of one generator for subsequent disposal.
- 3.4 **Satellite Accumulation Areas (SAA)** – Areas throughout the Laboratory, designated for satellite accumulation by Waste Management.
- 3.5 **Material Safety Data Sheet (MSDS)** – Forms that contain hazard communication information on materials found in the workplace. Refer to Section 8, Chapter 12 of this manual for further information on MSDS and chemical information.
- 3.6 **Refuse** – Municipal garbage/rubbish such as food, food wrappers, and other non-regulated, non-recyclable materials.
- 3.7 **Recyclable Materials** – Materials that are recycled at PPPL include, but are not limited to, the following; plastic and metal beverage containers, office paper, paper boxes, non-liquid toner cartridges, etc.

4.0 RESPONSIBILITIES

- 4.1 **Department Heads/Division Heads** – are responsible for insuring the implementation of this section within their administrative and functional areas.
- 4.2 **Waste Manager** – is responsible for maintaining the hazardous, radioactive, and mixed waste management programs at PPPL.
- 4.3 **Satellite Accumulation Area Managers** – are responsible for insuring SAA's are maintained in accordance with this section and EWM-004 *Satellite Accumulation Areas*.
- 4.4 **Waste Generator** – is responsible for insuring proper characterization and disposal of hazardous, or otherwise regulated waste generated through processes under their cognizance.

5.0 REFERENCES

- 5.1 Code of Federal Regulations, Title 40, Parts 260-299 (40 CFR 260-299)
- 5.2 Code of Federal Regulations, Title 49, Parts 170-179 (49 CFR 170-179)
- 5.3 Code of Federal Regulations, Title 40, Part 761 (40 CFR 761)
- 5.4 N. J. Administrative Code, Title 7, Chapters 1E, 14B, 26, 26E, and 26G
- 5.5 ERWM Procedures Manual

6.0 HAZARDOUS WASTE ADMINISTRATION

- 6.1 **90-Day Hazardous Waste Storage**
 - 6.1.1 The Waste Management branch of ERWM maintains a 90-day Hazardous Waste Storage Facility (HWSF) pursuant to federal regulation.
 - 6.1.2 Waste Management is obligated to collect, package and ship for disposal all generated hazardous waste within 90 days of generation to maintain EPA generator status.
 - 6.1.3 ERWMs HWSF is operated and maintained in accordance with: 40 CFR 262 Subpart C Pre-Transport Requirements 40 CFR 262 Subpart D *Recordkeeping and Reporting*, 40 CFR 265 Subpart I *Use and Management of Containers*, 40 CFR 265 Subpart DD *Containment Buildings*.
 - 6.1.4 Waste Management must be notified immediately of hazardous wastes, or materials believed to be hazardous wastes by the waste generator.

6.1.4.1 The generator shall properly tag the waste with an appropriate Hazardous Waste Identification Tag (see section 6.3).

6.2 Satellite Accumulation

6.2.1 ERWM has established a limited number of Satellite Accumulation Areas (SAAs) throughout the Laboratory.

6.2.2 The SAA program is run by Waste Management for the convenience of waste generators.

6.2.3 SAA are established and maintained pursuant to 40 CFR 262.34, *Accumulation Time*. That is, in order to comply with federal regulation, a SAA must;

6.2.3.1 Accumulate no more than 55-gallons of hazardous waste or one quart of acutely hazardous waste;

6.2.3.2 Reside at or near the point where the waste is generated, or initially accumulated;

6.2.3.3 Be under the control of the operator generating the waste;

6.2.3.4 Be inspected, at least weekly, for leaks, bulges, or deterioration associated with SAA containers;

6.2.3.5 Insure that the waste containers are always closed, except when it is necessary to add waste material;

6.2.3.6 Label or in some way mark waste containers with the words "Hazardous Waste" or with other words that adequately identify the contents of the containers;

6.2.3.7 Within three days of reaching 55-gallon capacity, contact Waste Management for waste collection.

6.3 Hazardous Waste Identification Tags (HWID)

6.3.1 The Waste Management branch provides identification tags for purposes of labeling hazardous waste containers for collection (i.e., transfer to 90-day storage).

- 6.3.2** Generators of hazardous waste must complete all applicable information to the best of their ability including generator name, division, telephone extension, location of waste (building, floor, room), description of waste material, quantity, container type (e.g., 15-gallon drum, 5-gallon carboy, etc.).
- 6.3.3** Upon completing the HWID tag waste generators shall notify Waste Management to collect the material.
- 6.3.3.1** Removing the top, original copy of the HWID tag, attaching a valid MSDS (available through Industrial Hygiene), and mailing it to Waste Management.
- 6.3.3.2** Affixing the bottom (ridged portion), carbon copy of the HWID tag to the waste container (e.g., bag, bottle, drum, etc.).
- 6.4** **Waste Generator Responsibilities**
- 6.4.1** Evaluate all waste material to insure appropriate disposal of hazardous, non-municipal, and other regulated wastes.
- 6.4.2** Whenever the matrix and/or constituents of the waste material are unknown, notify Waste Management for assistance.
- 6.4.3** Maintain adequate storage of waste materials prior to collection so as to minimize the risk of spills, inadvertent personnel contact, or other release to the environment.
- 6.4.4** Prevent inappropriate disposal of regulated or potentially regulated materials. That is, prevent illegal, uncontrolled dumping.
- 6.4.4.1** Laboratory Sinks - No liquid wastes shall be disposed via sanitary sewer (i.e., sink drains, etc.) without prior approval by ERWM Waste Management and Environmental Compliance.

- 6.4.4.2 Refuse and Recycling Containers– Waste must be segregated into appropriate receptacles. If a person is unsure of the regulatory status of a waste material they should refrain from placing it into refuse and recycling containers. For example, all glass and metal beverage cans are recyclable and therefore must not be placed in refuse cans.**
- 6.4.4.3 Evaporative Release via Fume Hoods –No liquid wastes shall be placed within fume hoods for the sole purpose of evaporating unwanted material.**
- 6.4.5 Complete a HWID tag and notify Waste Management promptly upon generating hazardous or otherwise regulated material.**

7.0 RADIOACTIVE WASTE ADMINISTRATION

7.1 Radioactive Waste Handling Facility (RWHF)

- 7.1.1 The Waste Management branch of ERWM maintains the RWHF for the purpose of handling radioactive wastes as well as radioactive material to be stored for future use.**
- 7.1.2 All routine radioactive waste packaging is performed in the RWHF by qualified Waste Management staff.**
 - 7.1.2.1 Liquid scintillation vials are processed so as to crush and separate the glass vial from the liquid contents.**
 - 7.1.2.2 Compactable radioactive materials (e.g., plastic bags, rags, etc.) are compressed by 10:1 via a hydraulic drum press.**
 - 7.1.2.3 Non-compactable radioactive wastes (e.g., large pieces of steel, wood, etc.) are packaged into drums and metal boxes.**
- 7.1.3 All radioactive materials, stored for future use are housed in the RWHF. A computer database is used to inventory the materials for later acquisition.**

7.2 Radioactive Material Identification Sheets (RMIDS)

- 7.2.1 All radioactive materials that are to be sent for storage or disposal as radioactive waste must be accompanied by RMIDS as per OP-AD-115, *Packaging of Radioactive Materials*.**
- 7.2.2 Prior to transfer of radioactive materials to Waste Management, the following must be complete:**
- 7.2.2.1 All information listed as the responsibility of the Cognizant Individual (e.g., physical description of material, chemical description, etc.) must be completed.**
 - 7.2.2.2 All Health Physics information must be completed.**
 - 7.2.2.3 When applicable, all Material Control and Accountability (MC&A) information must be completed.**

7.3 Stored Radioactive Material

- 7.3.1 All radioactive materials to be stored for future on-site use must be accompanied by RMIDS as per OP-AD-115, *Packaging of Radioactive Materials*.**
- 7.3.1.1 Materials will be stored for a period of one calendar year when RMID is accompanied by Division Head signature.**
 - 7.3.1.2 Upon expiration (i.e., after one year of storage), a second copy of the RMID will be circulated for renewal and associated Division Head signature.**
 - 7.3.1.3 In instances of non-renewal, a notice of "Intent to Dispose" will be sent to the Cognizant Individual, as well as the appropriate Department and Division Heads. After a period of one-month post notice, materials will be packaged for disposal in order to reduce Laboratory and University liability.**
- 7.3.2 Should the cognizant individual or designee remove material from the RWHF, Waste Management will require the receiving individual's signature as proof of relinquishment.**

7.4 Waste Processing

- 7.4.1 All radioactive waste generated within the PPPL facility must be characterized by Health Physics and accompanied by an RMID.**
- 7.4.2 Waste shall be packaged for pickup as per Waste Management and Health Physics direction.**
- 7.4.3 The waste generator shall play an “active” role in the packaging and characterization of any and all wastes generated.**