

HAZARDOUS WASTE MANAGEMENT PLAN

Reviewed 09/09/2008

Pacific Island Ecosystem Research Center (PIERC) personnel are required to comply with all federal, state, and local laws pertaining to hazardous wastes. This Hazardous Waste Management Plan (“the Plan”), together with the Hazardous Waste Management Standard Operating Procedures (“HWM SOP” #1 – # 13), provide the guidance and direction for the management of hazardous wastes at PIERC.

AUTHORITY

In accordance with applicable waivers of sovereign immunity, the U.S.G.S Biological Resources Division—Pacific Island Ecosystems Research Center (PIERC), the following statutes provide the regulatory framework for management of hazardous waste at PIERC.

- Resource Conservation and Recovery Act (RCRA), Subtitle C - (regulations found in 40 CFR parts 260, 261, 262, 265, 266, 268, 270 and 270);
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – (regulations found in 40CFR parts 300, 302, 311, 355, and 370);
- Occupational Safety and Health Act (OSHA) – (regulations found in 29 CFR parts 1910.120 and 1910.1200);
- Executive Order NO. 12856, “Federal Compliance with Community Right-To-Know Laws and Pollution Prevention Requirements”;
- Transportation Requirements – (regulations found in 49 CFR parts 171 through 170);
- State of Hawai’i – Hawai’i Administrative Rules (HAR) Sections 260 and 279.

CONSEQUENCES OF NON-COMPLIANCE

As a result of the waiver of sovereign immunity contained in the Federal Facilities Compliance Act of 1992, regulatory agencies can undertake civil and criminal enforcement actions in response to RCRA violations at Federal Facilities. Under RCRA, civil penalties are amassed on a per violation per day basis and can be assessed at a maximum of \$25,000 per day.

Whereas PIERC is subject to civil penalties as an organization, PIERCE employees, as individuals, may be held personally liable for criminal violations. Criminal charges can be brought if the State or EPA believes that individuals knowingly violated the law. Criminal penalties may include substantial fines and/or imprisonment. In addition to the individual who was directly responsible for hazardous waste management and who may have been involved in the activity causing the violations, criminal prosecutions typically target upper management and

the entire management line-of-command under the assumption that these individuals are responsible for ensuring that resource are allocated and that actions are taken to ensure compliance with applicable laws. If a criminal action is taken against a federal employee, the Department of Justice will not represent the employee because criminal conduct is considered beyond the scope of employment. However, employees may seek the assistance of private counsel to represent them.

Since the waiver of sovereign immunity contained in the Federal Facilities Compliance Act does not extend to hazardous materials, PEIRC is not compelled to comply with local and State statutes that address hazardous materials exclusively (and not hazardous waste). PIERC may choose to comply with the Community Right-to-Know hazardous materials ordinances voluntarily, but PIERC is not subject to fees or penalties associated with these programs.

SCOPE/APPLICABILITY

This Plan directs actions to be undertaken to ensure proper management of hazardous wastes, identifies where wastes will be accumulated, and defines the roles and responsibilities for PIERC staff and volunteers. The Plan also addresses training, emergency preparedness, record keeping, and hazardous waste minimization. The Plan also identifies the individuals currently assigned to the various roles designated in this Plan.

The Hazardous Waste Management Standard Operating Procedures provide specific guidance on how to conduct actions to ensure proper hazardous waste management and compliance with federal, state and local regulations. However, these SOPs are not designed to be used without the regulations. They briefly summarize some of the more basic and routine actions that should be part of PIERC's compliance program. The PIERC Hazardous Materials Coordinator must have a copy of the federal, state and local regulations and use them to make independent determinations regarding compliance issues.

This Plan and set of procedures applies to all hazardous waste generated by PIERC activities, and applies to PIERC staff, volunteers and PIERC contractors.

ROLES/RESPONSIBILITIES

The following roles and responsibilities are assigned to the PEIRC personnel in the following positions.

Center Director:

The PIERC Center Director has primary responsibility for ensuring that operations and facilities are in compliance with the laws and regulations pertaining to the management of hazardous wastes. The Center Director is responsible for allocating staff and funding compliance-related activities.

Hazardous Materials Coordinator:

The PIERC Hazardous Materials Coordinator performs hazardous waste management activities and advises other PIERC staff members regarding implementation of this Plan and SOPs. She/he will also be the primary point of contact in the event of a hazardous materials incident. The Coordinator is responsible for:

1. Updating this Plan and SOPs as appropriate.
2. Training PIERC staff on hazardous waste management and as required by OSHA 29 CFR 1910.1200 (the Hazard Communication Standard).
3. Implementing this Plan and SOPs.
4. Making all hazardous-substances-release notifications to federal, state and local agencies.
5. Preparing and revising the Hazardous Substance Spill Contingency Plan.
6. Recommending the appropriate spill contingency materials that are kept at the Accumulation Area.
7. Directing first response actions as appropriate.
8. Coordinating follow-up clean-up actions.

Specifically, this individual will be responsible for implementation of all HWM SOPs, except Position Descriptions. These responsibilities are reflected in the Position Description for the individual fulfilling this function and his/her alternate.

The Center Director and the Hazardous Materials Coordinator must designate an alternate to act in this position when the Hazardous Materials Coordinator is not available. The alternate also must be knowledgeable in all aspects of the hazardous waste program and be capable to act in this capacity.

Project Leaders:

All project leaders are responsible for ensuring that the personnel within the area of their responsibility comply with the guidelines of the Plan and SOPs.

All Center Staff:

All Center staff must comply with the guidelines of this Plan and SOPs. If staff is uncertain as to the proper handling or disposal of a particular material, it is their responsibility to seek out guidance from their supervisor and/or Hazardous Materials Coordinator. When hazardous wastes are generated, staff is responsible for getting the waste to the Primary Accumulation Area. Waste will not be left unless the Hazardous Materials Coordinator logs it in

PIERC HAZARDOUS WASTE GENERATOR STATUS.

PIERC is a Conditionally Exempt Small Quality Generator because it generates less than 100 kg. (220 lbs. or 25 gallons) of hazardous waste per month or less than 1 kg. (2.2 lbs.) of acutely hazardous waste per month.

The RCRA Identification Number is HI000000687

GENERAL GUIDELINES

Hazardous waste cannot be disposed of in trash cans, dumpsters, septic systems, sanitary sewers, storm drains, washracks/oil-water separators, on land, by evaporation, neutralization, dilution, incineration and/or through any other treatment process, or in municipal landfills. Additionally, the following strict prohibitions must be observed:

1. Never mix different types of wastes together (i.e., solvents and oils, or oil and antifreeze, etc).
2. Never pour hazardous substances down any type of drain.
3. Never hose down a spill of hazardous substance.
4. No smoking or eating in areas where hazardous materials or hazardous wastes are present.

All items of hazardous waste must be recycled or disposed off-site by a hazardous waste contractor. Hazardous waste disposal contracts are to be developed and administered by the Hazardous Waste Coordinator. It is important to note the difference between hazardous wastes and hazardous materials. Hazardous materials are useful products that exhibit hazardous characteristics such as ignitability, corrosivity, reactivity or toxicity. A hazardous material becomes a waste when it can no longer be used for its intended purpose because it is contaminated, used, spent, kept beyond its shelf-life, etc., and is to be discarded. The owner of the hazardous material is responsible for determining when that material can no longer be used, and, then, for determining if the material is a hazardous or solid waste, in accordance with 40 CFR 261.

ROUTINELY-GENERATED HAZARDOUS WASTE

Some of the hazardous wastes PIERC routinely generates are:

- used solvents
- alkaline batteries

- nickel/cadmium batteries
- lithium Ion batteries
- mercury acid batteries
- xylene solvent
- florescent light bulbs

HAZARDOUS WASTE ACCUMULATION

Hazardous waste will most likely be generated at the Kilauea Field Station of PIERC. The Primary Accumulation Area will be located where the hazardous wastes are held pending disposal.

Maximum Holding Time:

Because PIERC is a CESQG, there is no time limit for holding hazardous waste.

Management of Accumulation Areas:

The hazardous Material Coordinator is responsible for managing this area and ensuring that:

- The area is inspected monthly.
- A hazardous waste determination has been made for wastes that enter this area.
- Containers are appropriately labeled.
- Containerize are in good condition.
- Incompatibles waste is appropriately segregated.

Description of Primary Accumulation Area:

The primary Accumulation Area is a clearly marked outside storage lockers on the east side of building 344. Within one of the storage lockers is a flammable material storage cabinet that contains all flammable hazardous waste.

TRANSPORTATION, SHIPPING AND MANIFESTING OF HAZARDOUS WASTES

All hazardous wastes will be shipped off-site for treatment, disposal and recycling to a legal permitted facility using a qualified hazardous waste contractor and licensed hazardous waste transporter.

Off-site Shipments:

All hazardous wastes must be shipped under a Hazardous Waste Manifest. The manifest identifies:

- The nature and amount of waste that is being transported off-site.
- Who is the generator
- Who is the transporter
- What is the waste's destination

Signature on Manifest:

The Hazardous Materials Coordinator must sign the manifest. With the signature of the manifest, the signatory must certify that "I have made a good faith effort to minimize my waste

U.S. Geological Survey

P.O. Box 44

Hawai'i National Park, HI 96718

generation and select the best wasted management method that is available to me and that I can afford.”

Tracking of Manifest:

When hazardous wastes leave the facility, PIERC will be given two copies of the manifest. One copy is to be sent to the State of Hawai'i within thirty days of waste shipment. The second copy is to be retained by PIERC. Two additional copies of the manifest will accompany the waste during shipment. Upon receipt of the waste at the destination treatment, storage and disposal facility (TSDf), the facility operator will sign the manifest, indicating receipt. She/he will note if there are any discrepancies between the volume manifested from the generator and the volume received. The TSDf facility operator will then send a copy of the signed manifest to the generator confirming receipt at the destination facility. If PIERC fails to receive the “come-back” copy from the TSDf confirming their receipt within thirty-five days of waste shipment, the facility must contact the TSDf and the transporter and determine where the waste is and attempt to obtain the appropriate copy of the manifest from the TSDf facility. If PIERC cannot locate the waste and obtain the manifest copy signed by the TSDf, the Hazardous Materials Coordinator must notify EPA of this exception in writing within 65 days.

HEALTH AND SAFETY

Hazard Communication:

Personnel working with and /or around hazardous materials and hazardous wastes shall be made aware of the hazards to which they are exposed and the precaution required to protect themselves. This will be accomplished in accordance with the Occupational Safety and Health Administration's (OSHA) regulations found in 29 CFR 1910.1200, the Hazard Communication standard. Staff using hazardous materials must have Hazard Communication training and must have access to Material Safety Data Sheets (MSDS) for products that they used in the performance of their jobs. All hazardous materials that are stored must have an MSDS available for it within the same immediate area or storage cabinet. Information on the hazards and required safety equipment shall be posted in all work areas. The appropriate safety equipment shall be available in the work area and shall be utilized as required to ensure adequate protection. A separate Hazard Communication Plan will be maintained to describe how the requirements will be met.

Hazardous Waste Operations and Emergency Response:

PIERC is a small quantity generator under RCRA who does not undertake emergency response actions beyond responses to absorb, neutralize, or otherwise control a release at the time the release occurs. Therefore, the sections of 29 CFR 1910.120 that apply to “hazardous waste site operations” are not applicable to PIERC.

Only 29 CFR 1910.120 (q) applies to PIERC. This regulation requires that employers have an emergency response plan to handle anticipated emergencies. PIERC has established relationships with local entities, as described in the Plan under Preparedness and Prevention. The Chemical Hygiene Plan identifies who will respond to hazardous materials incidents and

provide waste determination and clean-up services. PIERC will not maintain a hazardous materials response team. PIERC personnel will not perform any actions beyond first response, as described in the Oil and Hazardous Substance Spill Contingency Plan.

For the purpose of first response, individuals who are likely to witness or discover a hazardous substance release must be trained to initiate an emergency response sequence by notifying the proper authorities of the release. They will take no further action beyond self-evacuation and notification.

The Hazardous Materials Coordinator will be trained to perform advance, defensive first response, consistent with the First Responder Operations level training. Response at this level is limited to initial response actions taken at the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release without actually trying to stop the release. This level of response includes;

- actions to contain the release from a safe distance
- keeping it from spreading
- actions to prevent exposure (evacuation).

PREPARDNESS AND PREVENTION

Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous substance to air, water, soil, or surface water. To this end, all waste accumulated will be stored with secondary containment. The Primary Containment Area is in a Flammable Liquid Safety Cabinet with a built in leakproof spill well to act as secondary containment.

Fire extinguishing equipment, appropriate to the type of waste managed, will be kept in the Primary Accumulation Area. Complete functional test will be made by the Hawai'i Volcanoes National Park Fire Management Office on the same schedule as the rest of the park extinguishers.

Adequate aisle space must be maintained to allow for unobstructed movement of waste containers, personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency. The aisle space is also required to enable inspection of the accumulation area for leaks.

HAZARDOUS SUBSTANCE SPILL CONTINGENCY PLANNING

PIERC has a Hazardous Substance Spill Contingency Plan (“the Spill Contingency Plan”). The Spill Contingency Plan is designed to identify potential spill hazards, and identify protocols to respond to spill contingencies that could threaten human health and the environment. The Spill Contingency Plan shall be maintained as a document separate from the Plan.

The provisions of the Spill Contingency Plan shall be carried out whenever there is a fire, explosion, or release of hazardous substances. It directs first response activities to be

undertaken by PIERC staff, emergency notifications to be made, and identifies entities that will be called upon to provide assistance with emergency response, waste identification, and cleanup operations. The arrangements with local fire and county hazardous materials responders are described therein.

All PIERC staff, interns and volunteers shall read and understand all procedures contained in the Spill Contingency Plan and shall be trained in executing these procedures. This training shall be documented and the training records kept on-site.

Contents of the Spill Contingency Plan shall include at a minimum:

- An analysis of the type and severity of spills which could occur at the station.
- A step-by-step description of the actions that station personnel must take in case of fire, explosion or unplanned release of hazardous waste/material to the environment.
- A description of outside emergency assistance (police, fire department, Hawai'i Volcanoes National Park Hazardous Materials Coordinator and Safety Office, medical equipment) which is readily available.
- A list of names, addresses and phone numbers of field station personnel qualified to act and/or provide facilities information in case of emergencies. The list will be kept current in all copies of the contingency plan.
- A comprehensive list of the emergency equipment and supplies, their location, and use/capabilities.
- In areas where there is a potential for contamination of other systems or environment, a map which identifies storm and sanitary drains and surface drainage which may need to be dammed or protected if a liquid spill occurs.
- An evacuation plan for personnel where there is the possibility that evacuation could be necessary. The evacuation plan should describe signal (s) and primary and alternate evacuation routes.

The Spill Contingency Plan will be reviewed annually and amended whenever:

- the plan fails in an emergency
- the facility changes design, construction, operation, location, procedures or other circumstances which require changes in established emergency response procedures
- the Hazard Materials Coordinator changes
- the emergency equipment changes

A copy of the Spill Contingency Plan will be kept by the Hazardous materials Coordinator and her/his alternate.

HAZARDOUS WASTE TRAINING PLAN

Federal and state law requires that the employer ensures that all personnel are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies. As described above under the subheading Health and Safety there are also OSHA mandated training requirements related to hazardous waste management.

Hazardous Waste Management Training:

In accordance with 40 CFR 26.16, each person handling or managing hazardous waste or materials must successfully complete training that teaches employees how to perform their duties in a way that ensures the facility's compliance with the hazardous waste regulations. This training must include instruction in proper waste handling and contingency plan implementation. The introductory training must be completed within four (4) weeks of the date the employee begins his/her job, and the employees must attend an annual refresher training.

Specific Training Requirements for Positions Related to Hazardous Waste/materials Management:

Hazardous Materials Coordinator:

- First Responder Operations
- Hazardous Waste Management Procedures
- Hazard Communications Training

Personnel who generate hazardous waste as a part of their job:

- Spill Contingency Plan
- Hazard Communications Training

All PIERC personnel:

- Spill Contingency Plan

PIERC may deem additional training mandatory when necessary.

The list of staff fulfilling certain hazardous waste-related functions is included with this Plan as Table 1.

Training Records:

The Hazardous Materials Coordinator will maintain training records and a duplicate set will be maintained by the Center Director's office. The records that demonstrate the successful completion of the mandatory training requirements will be maintained indefinitely. The

Hazardous Materials Coordinator will be responsible for assuring training and training compliance of PIERC employees.

OPERATING RECORD AND RECORDS MAINTENANCE

A written record of hazardous waste-related operations and other records that must be retained will be collectively referred to as the “Operating Record”. The required information to be maintained in the Operating Record includes:

1. A log of hazardous waste held at the Primary Accumulation Area including:
 - the common name of the waste
 - the EPA Hazardous Waste Number(s) (found in 40 CFR 261)
 - the physical form of the waste (i.e., liquid, sludge, solid, etc.)
 - the estimated volume
 - the process that generated the waste
 - the date of entry and disposal
2. A map indicating the location of accumulation area.
3. MSDSs and waste analyses used to characterize waste streams.
4. Records and results or monthly inspections of accumulation area.
5. Written summaries of all spill incidents that require implementation of Spill Contingency Plan.
6. Any monitoring, testing, analytical data, or corrective action pertaining to the accumulation area.
7. Records of training class attendance and tracking of PIERC’s performance under these requirements.
8. All manifests, exception reports, and bills of lading for hazardous and non-hazardous special wastes disposed of.
9. Tolling agreements under which recycling firms regularly pick up wastes.
10. All official reports submitted to EPA and other regulatory agencies as required by policy or regulation.

These records shall be retained indefinitely in an official file maintained by the Hazardous Materials Coordinator and a duplicate file maintained by the Center Director’s office.

EFFECTIVE DATE OF THE PLAN

This Plan and the Hazardous Waste Management Standard Operating Procedure are effective as of the date of signature of PIERC's Center Director below. Updates of the plan shall require a new signature page and date to make them effective.

_____ Paul Banko _____
Field Station Leader Date
USGS Biological Resources Division
Pacific Island Ecosystems Research Center
Kilauea Field Station

Attachments to the Hazardous Waste Management Plan:

1. Figure 1 – Location of Accumulation Area
2. Assignments of responsibilities
3. Hazardous Waste Management Standard Operating Procedures

LOCATION OF ACCUMULATION AREA

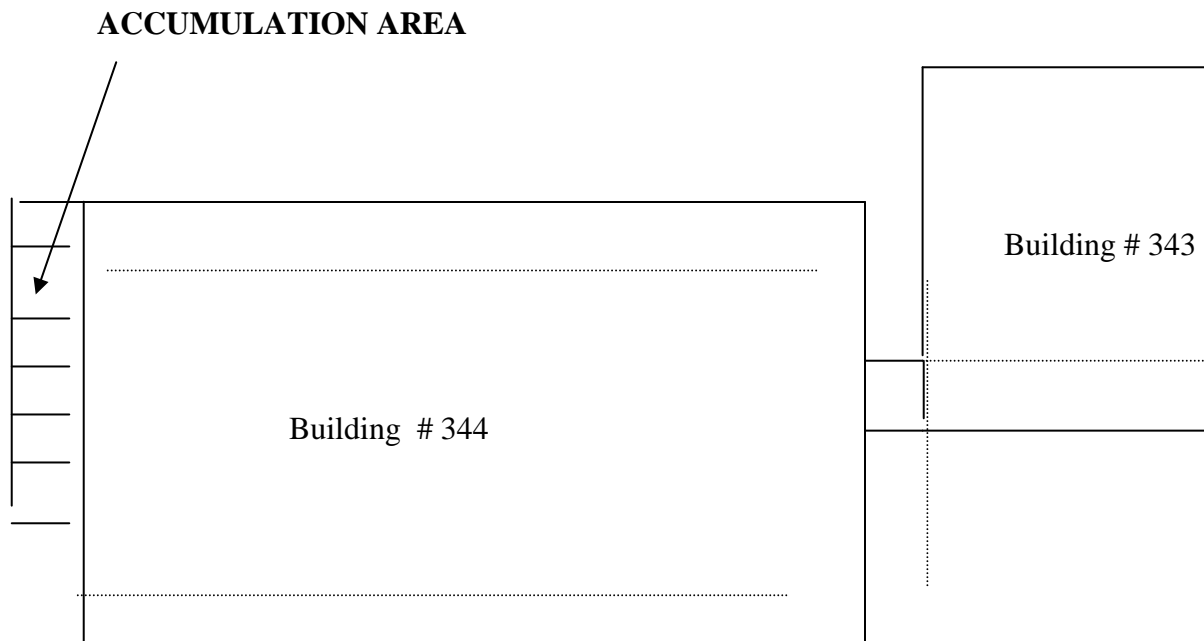


Figure 1

ASSIGNMENTS OF RESPONSIBILITIES:

<u>PIERC Positions</u>	<u>Name</u>	<u>Work Phone</u>	<u>Home Phone</u>
PIERC Director	Loyal Mehroff	808.933-0618	808.342-7606
Field Station Leader	Paul Banko	808-967-7396 x 235	808.967-7610
Hazardous Materials Coordinator	Nick Shema	808.967-7396x275	808.967-8648
Alternate HAZMAT Coordinator	Carter Atkinson	808.967-7396 x 271	808.967-8669

Figure 2

**HAZARDOUS WASTE MANAGEMENT
STANDARD OPERATING PROCEDURES**

In order to facilitate implementation of this plan, the critical action items have been summarized as Standard Operating Procedures. This set of SOPs is intended to be used in conjunction with the regulations. In implementing the SOPs, all of the individuals must obtain and read the referenced regulations, which may state the requirement in different words than the manner in which it has been summarized in the SOP. If there appears to be lack of clarity, an omission, or conflict between the requirements as given in the SOP and as written in the regulation, the regulations, obviously, supercede these SOPs.

HWM SOP # 1	Identification of Hazardous Waste
HWM SOP# 2	Addition of waste to the Accumulation Area
HWM SOP# 3	Management of the Accumulation Area
HWM SOP# 4	Segregation of Incompatible Hazardous Wastes
HWM SOP# 5	Management of Hazardous Waste Containers
HWM SOP# 6	Labeling, Marking, and Packaging Requirements
HWM SOP# 7	Hazardous Waste Accumulation Area Inspections
HWM SOP# 8	Transportation of Hazardous Waste
HWM SOP# 9	Disposal of Hazardous Waste
HWM SOP # 10	Spill Response and Emergency Procedures
HWM SOP #11	Position Description
HWM SOP #12	Maintenance of Operations Records
HWM SOP #13	Hazardous Waste Minimization Procedures

IDENTIFICATION OF HAZARDOUS WASTE

PURPOSE: The generator of a waste must determine accurately whether it is a hazardous waste, and to assign to the hazardous waste appropriate name(s) and EPA Hazardous Waste Number(s) as required by regulation. The generator must be able to accurately identify the contents of all containers holding hazardous materials or waste. Hazardous Wastes must be identified by:

- common name
- proper Department of Transportation (DOT) shipping name
- EPA waste identification number.

RESPONSIBILITY: All PIERC personnel who use hazardous materials.

REFERENCES: 40 CFR 252.11
40 CFR 261.10 – Appendix VII
49 CFR 172
DOT Emergency Response Guidebook
Material Safety Data Sheet
Laboratory analysis

PROCEDURE:

1. Obtain the Material Safety Data Sheet for the product or compound from which the waste was generated. If you do not have the MSDS, ask the center Safety Officer or call the product manufacturer and ask for the MSDS to be faxed to you. The MSDS will identify the product ingredients and the product properties.
2. Identify whether the material has characteristics that are hazardous as defined in 49 CFR 261. These are as summarized in brief, but not comprehensively, below:
 - **Ignitability:** Flash point of less than 140 F. or 60 C.
 - **Corrosivity:** Ph of less than 2 or greater than 12.5.
 - **Reactivity:** Normally unstable and undergoes violent changes
Reacts violently with water
Readily capable of detonation
 - **Toxicity:** Contains concentrations of a constituent in excess of regulatory threshold as identified in 40 CFR 261.24 (requires lab analysis to confirm)
3. If the waste is not hazardous by virtue of its characteristics, it can still be a listed hazardous waste. Identify whether any of the material ingredients are on the list of hazardous constituents in 40 CFR 261 Appendix VIII.

4. If an MSDS is not available or there is a material for which there is no information known: laboratory analysis is required. Contact your Hazardous Materials Coordinator for assistance.
5. Identify the common name of the compound (found on the MSDS) or what it is commonly referred to as.
6. Find the EPA Hazardous Waste Number in 40 CFR 261.
7. Once you have identified the waste name and EPA Hazardous Waste Number, check the hazard code in 40 CFR 261.31 and 263.32 and 262.33 and determine whether the waste is acutely hazardous. (no more than one kilogram per month can be accumulated)

If you have waste that you think may be hazardous, contact your Hazardous Materials Coordinator for assistance.

ADDITION OF WASTE INTO THE ACCUMULATION AREA

PURPOSE: The purpose of this standard is to ensure compliance with the requirements for identification, labeling, container integrity, and segregation of wastes at the time waste is entered into the Accumulation Area. Logging in the waste will also help PIERC confirm and document its generator status.

RESPONSIBILITY: Hazardous Waste Coordinator
All PIERC personnel who use hazardous materials

REFERENCES: 40 CFR 265 Appendix I
Waste Entry Log (attached)

PROCEDURES:

1. Bring with you all written documentation that relates to your hazardous waste determination, including Material Safety Data Sheets and laboratory analysis. Make sure that documents you bring are copies as you will be required to leave it with the hazardous Materials Coordinator.
2. Do not leave the waste outside the cabinet or around the Accumulation Area. Wait for the Hazardous Materials Coordinator and provide her/him with all of the requested information.
3. The hazardous Materials Coordinator will log the waste in using the attached Hazardous Waste Entry Log, identifying:
 - what it is
 - volume

The entry will then be initialed by the Waste Management Coordinator and dated.

4. The Waste Materials Coordinator will ensure:
 - That the hazardous waste determination and identification appears to be correct and supporting documentation (i.e., MSDS or lab analysis) is attached to the Waste Entry Log.
 - That the container to be entered meets the requirements of Hazardous Waste Management SOP MANAGEMENT OF CONTAINERS. If the condition of the container is poor, the container must be placed in an overpack drum or, if the hazards of the material are clearly understood and appropriate personnel protective equipment is worn, the waste can be transferred to another container by the Hazardous Materials Coordinator.)

- That the container is appropriately labeled in accordance with the Hazardous Waste Management SOP LABELING AND MARKING OF CONTAINERS. The accumulation start date on the RCRA hazardous waste label is the date of entry into the Accumulation Area. The hazardous Materials Coordinator will write the date on the label using a water-impervious black pen.
- That the container is placed in the Accumulation Area appropriately segregated from incompatible waste.

If you have any questions, please contact the hazardous Materials Coordinator.

MANAGEMENT OF THE ACCUMULATION AREA

PURPOSE: The Accumulation Area shall be constructed, equipped and maintained in a manner to minimize the possibility of a fire, explosion or any release of hazardous substance to the environment. This must be accomplished through facility design and maintenance, and through response preparedness planning and materials. The hazardous nature of the material requires the Accumulation Area to be outside of the facility, and it must be secure from unauthorized entry.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCES: 29 CFR 1910.106
40 CFR 265.14 – 265.17

PROCEDURES:

1. The Accumulation Area must have the following signs present at all times and these signs must be legible from a distance of 25 feet from the facility.
 - “DANGER – HAZARDOUS WASTE AREA – UNAUTHORIZED PERSONNEL KEEP OUT”
 - “NO SMOKING”
 - Signs denoting each hazard’s class of hazardous waste stored in the area. Examples: “FLAMMABLE”, etc.
 - A sign listing the telephone numbers of people/organizations to call in case of a spill or emergency. At a minimum, the sign should state” IN CASE OF SPILL OR EMERGENCY, IMMEDIATELY CONTACT PARK DISPATCH AT 985-6170 OR 911”.
2. The site must be secure from unauthorized entry and be kept locked at all times with a keyed lock. The Hazardous Materialize Coordinator and her/his alternate will have possession of the key to this lock.
3. Spill contingency materials must be present in the Accumulation Area, in good working order, and replenished as needed. These materials must include:

- A fire extinguisher (The hazardous Materials Coordinator will assess the site and provide the type of fire extinguisher needed.)
 - Extra clean and empty one and two gallon pail containers that are DOT-approved containers as listed in 49 CFR, Subchapter C, Part 178. (The vendor of the containers should identify that the containers are DOT-approved and the container itself will be marked indicating the same.)
 - Absorbents suitable for the types of wastes present.
 - Personnel protective equipment including chemically resistant gloves, protective eyewear, apron, etc.
 - Posted spill-reporting procedures
4. Aisle space around storage cabinet must be maintained to allow for unobstructed movement of personnel, fire protection equipment and spill control equipment.
 5. All hazardous materials shall be stored in full compliance with 29 CFR 1910.106, Flammable and Combustible Liquids.
 6. A copy of this Hazardous Waste Management Plan and Standard Operating Procedures must be kept in the area. A copy of the hazardous Waste Compatibility Chart must be kept at the Accumulation Area as well.
 7. The PIERC Hazardous Materials Coordinator will maintain a complete stock of container labels used for labeling and marking containers.
 8. If a spill or release occurs, PIERC's Spill Contingency Plan must be activated.

If you have any questions, please contact the Hazardous Material Coordinator.

SEGREGATION OF INCOMPATIBLE HAZARDOUS WASTES

PURPOSE: Waste compatibility will be considered and determined at the time that hazardous wastes are entered into the Accumulation Area. Potentially incompatible wastes will be segregated to prevent accidental ignition or reaction of ignitable or reactive waste.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCE: Hazardous Waste Compatibility Chart, U.S.EPA
Material Safety Data Sheet
40 CFR 265.17
40 CFR 265.177

PROCEDURES:

1. Hazardous wastes shall not be mixed. Separate containers are required for each type of waste generated/accumulated.
2. The compatibility of wastes shall be identified at the time wastes are entered into the Accumulation Area. The hazardous Materials Coordinator will utilize information on chemical properties from the MSDS and the “Hazardous Waste Compatibility Chart” to identify waste compatibility. For example, combustibles and flammables such as fuels, lubricants, solvents, paints and thinners are compatible and may be stored in the same area; however, corrosives and oxidizers are not compatible and may not be stored together. If there is uncertainty as to the compatibility of waste types to be managed in the Accumulation Area, contact the manufacturer of the product or CHEMTREC at 1.800.424.9300.
3. Segregate incompatible wastes by separating the containers to the maximum extent possible within the Accumulation Area.

If you have any questions, please contact the Hazardous Materials Coordinator.

MANAGEMENT OF HAZARDOUS WASTE CONTAINERS

PRUPOSE: Proper management of containers that contain hazardous waste is required to minimize the potential for release, and to ensure that the wastes are packaged in a manner consistent with the requirements for transportation.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCES: 40 CFR 263.34 (d)
40 CFR 265.170 - 265.177
49 CFR 178

PROCEDURES:

1. Hazardous waste shall be stored in DOT approved containers as listed in 49 CFR, Subchapter C Part 178. Paint cans are not DOT approved containers. Paint cans must not be used to accumulate hazardous wastes. Paint of un-like types (lead-base, oil-base, and latex) must be accumulated in separate containers.
2. To prevent overflow due to expansion of liquids, leave the following headspace:
 - 5 gallon cans – 1.5 to 2 inches
 - 1 gallon cans – 1 inch
3. Chemical products in leaking, corroded, or otherwise deteriorated containers must be over-packed in DOT approved containers and disposed as hazardous waste. The over-pack container must be durable, non-leaking and constructed to safely contain the material being placed in it. When using over-pack containers adhere to the following guidelines:
 - Over-pack containers are available in a variety of sizes and materials. Many hazardous wastes require a specific type of over-pack container. Using the wrong over-pack container can be costly and promote accidents and personal injury. Check the MSDS for information regarding compatibility between a type of waste and its container.
 - When over-packing leaking liquid containers, it necessary to place absorbent in the over-pack container. The absorbent material must be capable of soaking up all the liquid contents of the leaking container being over-packed.
 - Leaking containers of non-liquid hazardous wastes (such as powders, etc.) may not need to be over-packed with absorbent material. In most cases, it is sufficient to simply place the leaking container in an appropriate over-pack container.
4. All hazardous waste containers shall be closed at all times. Containers may only be opened when waste is being added or removed, and must be closed immediately afterwards.

If you have any questions, please contact the hazardous materials Coordinator.

LABELING, MARKING AND PACKAGING OF HAZARDOUS WASTE CONTAINERS

PURPOSE: Containers holding hazardous wastes must be labeled to identify accurately the contents as “hazardous waste”, the date since the waste was accumulated and the type of hazard the material presents. The container must be compatible with the type of wastes it contains and the container must be of a type that is suitable for transporting the wastes.

RESPONSIBILITY: Hazardous Materials Coordinator
Individuals who generate hazardous wastes

REFERENCES: 40 CFR 262.30 – 262.32, 262.34
49 CFR 172, 173, 178,179

PROCEDURES:

1. A hazardous waste label that is marked “Hazardous Waste” must be placed on the container as soon as the first amount of hazardous waste is placed in it, while at the generation point.
2. All labels shall be completed using permanent ink that is not water-soluble and will not readily fade.
3. A hazard class label (flammable, corrosive, oxidizer, etc.) will be placed on containers as required by 49 CFR 172. The activity shall contact the Hazardous Materials Coordinator for guidance on hazard class label requirements for hazardous wastes.
4. All hazardous waste containers shall have the following information/markings:
 - Common name which accurately identifies the contents
 - Hazard class (flammable, toxic, etc.)
 - Accumulation start date
 - Name, address, telephone number of the generator
 - EPA identification number of the generator
 - The composition and physical state of the waste
5. Over-packed containers must be labeled and marked in the same manner as all hazardous waste containers.
6. To the extent possible, the hazardous waste will be held in containers that meet the DOT packaging standards for transportation. At the time wastes are ready to be transported off-site, the hazardous waste contractor shall inspect the packaging to ensure that these standards are met.

7. For small containers of hazardous waste, it may be appropriate to lab pack the wastes if the wastes have been characterized and the container it is in is not suitable for shipment.
 - Incompatible wastes must not be packed in the same lab pack. A separate lab pack must be prepared for flammables, combustibles, corrosives, oxidizers and solvents..
 - A cumulative list of the hazardous wastes contained in the lab pack must be maintained. The list must be attached to the container either on the side or on top.
 - The lab pack must be labeled as directed above in the SOP.

If you have any questions, please contact the Hazardous Materials Coordinator.

HAZARDOUS WASTE ACCUMULATION AREA INSPECTIONS

PURPOSE: To ensure that all spill contingency materials are maintained in working order, to ensure that containers are not deteriorating and maintain their integrity, and to identify spills or releases in the Accumulation Area, monthly inspections will be made of the Accumulation Area. These inspections will be documented on inspection logs and the logs will be maintained as part of the facility operating record.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCE: 40 CFR 262.24 (d)
40 CFR 265.73
40 CFR 165.174

PROCEDURES:

1. The Hazardous Materials Coordinator is responsible for monthly inspection of the Accumulation Area.
2. The Monthly Hazardous Waste Inspection checklist will be used to conduct this self-inspection. A copy of this checklist is attached to this SOP.
3. During the inspection, the Hazardous Materials Coordinator will:
 - Ensure that required signage is present and visible.
 - Ensure that the required spill contingency materials are present and in good working order.
 - Ensure that the containers are closed and not leaking, corroding, or otherwise in poor condition.
 - Ensure proper segregation of hazardous materials.
 - Ensure that there is no trash or debris in the immediate area.
 - Ensure that an accumulation start date is designated on every container within the Accumulation Area.
4. The record of inspections (checklist) shall be stored in the Accumulation Area in a notebook.
5. These inspection records must be made accessible to State and Federal inspectors upon request.

If you have any questions, please contact the Hazardous Materials Coordinator.

TRANSPORTATION OF HAZARDOUS WASTES

PURPOSE: Hazardous wastes shipped from the Kilauea Field Station shall only be transported by an EPA-registered hazardous waste transporter.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCE: 40 CFR 262.20 – 23
40 CFR 262.33
40 CFR 172, Part F

PROCEDURES:

1. Hazardous waste for PIERC will be shipped under a Uniform Hazardous Waste Manifest which contains the following information:
 - A Manifest Document Number (an identification number unique to each form)
 - The name, address, phone number and EPA Identification Number of the waste generator (PIERC)
 - The name, phone number and EPA Identification number for the facility to which the waste is being shipped
 - The name, phone number and EPA Identification number for the transporter shipping the waste
 - A 24-hour emergency contact at PIERC
 - For each hazardous waste, the common name, DOT shipping name, UN number, EPA Hazardous Waste Number, waste volume, container type and the appropriate Emergency Response Guide page number
2. Hazardous Waste Manifest shall only be signed by the Center Director or her/his designee.

DISPOSAL OF HAZARDOUS WASTE: GENERAL GUIDELINES

PURPOSE: All hazardous waste generated at PIERC shall be removed from the facilities for off-site disposal by a qualified hazardous waste contractor and transported by an EPA registered hazardous waste transporter. All hazardous waste containers will be held no longer than 270 days from the start date of accumulation of waste.

RESPONSIBILITY: Hazardous Materials Coordinator

Reference: 40 CFR 262.34

PRODEDURES:

1. If there are hazardous materials that must be removed from the facilities, the Hazardous Materials Coordinator will then write a small purchase procurement contract for the removal and disposal of the hazardous waste.
2. As part of the required contract submittals, the Contractor must submit the proposed destination facilities for the hazardous waste. The Hazardous Materials Coordinator will review the submittals to ensure that the wastes will be sent to a facility that is legally permitted to receive the types of hazardous wastes that are being disposed of.
3. The contractor will not receive any more than 75% of the total amount owed under the contract until such time as PIERC receives the Certificate of Disposal/Destruction for the waste managed.
4. At a minimum, removals will be scheduled to ensure that hazardous waste accumulations do not exceed the 270 day holding limitation.
5. **Radioactive Materials:** Any material or combination of materials that emit ionizing radiation, although not managed under hazardous waste regulations, must be intensely controlled.
6. **Empty Containers:** Specific guidance for disposal of common types of empty containers is provided below.
 - In order for containers to be considered empty, all liquid within the container must be used or drained to the extent that the liquid can no longer be poured from the container. All sludge or solid material must be removed or scraped from the container. Only a thin, dry layer of residual material is acceptable. Otherwise, the container will not fall under the legal definition of an “empty container”. All hazardous material scraped or poured from a container must be disposed of as hazardous waste.

- Empty containers, as defined above, less than 5 gallons in size will be disposed of in municipal trash bins, so long as the material was not considered extremely hazardous under 40 CFR 355 Appendix A. The empty container must be completely free of holes and it must have all caps, lids, etc., affixed. These containers must be labeled/marked in accordance with guidance provided below. Empty containers that are punctured, missing caps/lids or otherwise open to the environment must be placed in plastic bags and over-packed in drums prior to disposal.
 - If the container previously held extremely hazardous substance, the empty container must be closed, labeled and managed as hazardous waste, even if it is less than 5 gallons in size.
 - Empty containers larger than 5 gallons in size will be labeled “Non-Hazardous Waste”. The previous contents and the date the container was emptied will be specified on the label. These will be held in the Accumulation Area and disposal arranged by the hazardous waste disposal contractor.
 - Empty 55-gallon drums will be reconditioned or recycled for scrap metal by a hazardous waste contractor who will ensure that the drum is properly rinsed and decontaminated. Such drums may not be used for any other purpose while on-site.
7. **Used Absorbent (sweeping compound or kitty litter):** If saturated or contaminated with a hazardous substance, material must be containerized and managed as a hazardous waste.
8. **Used Batteries:** Nickel-Cadmium (Ni-Cad) and mercury-oxide will be accumulated and shipped as hazardous waste for recycling. Lead-acid car batteries and two-way radio batteries will be recycled at the place of purchase if possible. Alkaline type dry cell batteries (AAA, AA, A, B, C, D and 6-volt) will not be accumulated and will be disposed of in the municipal trash unless there is a large number of these batteries which in that case will be recycled at the place of purchase if possible.
9. **Used anti-freeze (ethylene glycol):** This material is a hazardous waste because of the metals that accumulate in the anti-freeze during use. Place the material in a labeled, closed container, which can be an empty anti-freeze container, and place it in the Accumulation Area. When enough has accumulated, it will be then taken to the National Park Auto Shop for recycling.
10. **Aerosol Containers:** Aerosol containers with residual paints, lubricants, solvents, cleaners and other hazardous materials are generated in a number of activities. If the can has residual or propellant, the can must be managed as hazardous waste. Completely empty aerosol cans may be put in with municipal waste. Cans must not be deliberately sprayed out to waste product so as to empty the can. Because the cost of disposal of aerosol containers is extremely high and alternate methods are available for the application of materials that come in aerosol containers, products should no longer be purchased in aerosol containers.
11. **Waste Paint:** Paint must never be held in a container that cannot be closed. Paint containers, when not in use, must be closed. Waste paint shall never be allowed to “air-dry”. Allowing

paint to “air-dry” is considered a form of treatment (evaporation) by the U.S. EPA. Volatile organic compounds (VOC) may be released into the atmosphere during evaporation.

When paint residual is determined to be waste, it must be poured into a container designated for waste paint. **Separate waste paint containers must be designated for: leaded paint; enamel paint; and latex paint. Do not intermix these types of paints.** Waste latex is hazardous waste because of its ignitability. Waste paints must not be accumulated in the 1 or 5 gallon pails.

Paint cans must be completely emptied prior to disposal. All residual paint must be poured out. Paint sludge must be scraped out and dried paint chips must be knocked out into the appropriate waste paint container. Cans emptied in this fashion may be discarded as trash or recycled. Containers are not considered empty when there is liquid covered by a “dry film”. Partially full containers must be reported as hazardous waste. Paint containers, with more than just a very, light dry residue must be disposed of as hazardous waste in non-leaking, safe containers.

12. **Solvents and thinners:** Solvent wastes must be held in compatible containers and managed as hazardous waste.

13. **Fluorescent lighting tubes:** Light tubes contain mercury and need to be treated as hazardous waste. During normal operation, there should be no need for PIERC employees to handle fluorescent lighting tubes. Contact the Hazardous Materials Coordinator if a fluorescent tube needs to be replaced.

SPILL RESPONSE AND EMERGENCY REOCEDURES

PURPOSE: These spill response procedures must be prominently posted in every hazardous waste accumulation area.

RESPONSIBILITY: Hazardous Materials Coordinator
Any personnel who discovers a spill, release, fire or explosion

REFERENCES: 40 CFR 262.34 (d) (4)

PROCEDURES:

1. In the event of a spill, fire or explosion, immediately evacuate the area to a safe distance, up wind.
2. Contact National Park Dispatch and identify your location and the nature of the situation. If the type of material involved is known and the volume, provide dispatch with this information immediately.
3. Secure the area at a safe distance to ensure that no unauthorized entry to the spill area. Maintain a watch until emergency response personnel are present or post barricades and signs, as appropriate.
4. If the spilt material is known, the Hazardous Materials Coordinator may take defensive first response actions using spill contingency absorbent materials to immobilize the spilt liquid, if appropriate. However, no PIERC personnel shall attempt to clean up the spill or the absorbent. **DO NOT HOSE DOWN THE AREA.**
5. The Hazardous Materials Coordinator or her/his alternate will notify:
 - Hawai'i Volcanoes National Park Dispatch @ 985-6170
 - Hawai'i Volcanoes National Park Hazardous Materials Spill Response Team @ 985-6042
 - Hawai'i Volcanoes National Park Fire Cache @ 985-6044
 - Director of PIERC @ 808.587-7455 or 808.265-0752
 - Station leader of field station involved (e.g. Kilauea Field Station)
 - State Spill Response - 1-808-586-4249 day, 1-808-247-2191 evenings & weekends.

POSITION DESCRIPTIONS

PURPOSE: The assignment of responsibilities and job duties shall be reflected in the official Position Description of the individuals filling roles identified in the plan.

RESPONSIBILITY: Center Director
Administrative Officer

REFERENCES: 40 CFR 265.16

PROCEDURES:

1. The following paragraph must be present in the Position Description of all individuals who generate hazardous waste as part of the primary job function.

“Responsible for ensuring that proper procedures for hazardous materials or waste handling and minimization are followed. Ensures that, when a new container of a hazardous material is going to be used that there are no other containers of the same product available. Practice “First-in, First-out” inventory rotation for hazardous materials. Properly label all containers used to accumulate hazardous waste with the words “Hazardous Waste”, the start date and type of contents. Keeps all containers closed and waste containers in the appropriate Accumulation Area. Never mixes different types of wastes. Promptly reports all spills according to the Spill Contingency Plan. Asks supervisor questions if uncertain to the proper handling and disposal procedures for a hazardous material or waste”.

2. The following paragraph must be present in the Position Description of the individual who acts in the capacity of Hazardous Materials Coordinator.

“Responsible for proper hazardous materials and waste management within PIERC. Ensures hazardous wastes are properly identified, containerized, labeled, inventoried and inspected in the Accumulation Area. Provides Center Director with budget for necessary hazardous waste equipment, disposal and training. Ensures that the Accumulation Area is appropriately stocked with spill contingency equipment, containers and labels. Contracts for the removal of wastes semi-annually and ensures that the wastes are held no longer than 270 days. Responsible for compliance with Emergency Planning and Community Right-TO-Know Act (EPCRA). Develops and implements Hazardous Communications Plan. Develops and maintains the Hazardous Waste Management Plan and SOPs. Trains PIERC personnel on proper hazardous waste management practices. Maintains Hazardous Waste Operating Record. Ensures that there is someone acting in the capacity of Hazardous Materials Coordinator at all times who is knowledgeable of the program.

MAINTENANCE OF OPERATING RECORDS

PURPOSE: Records that demonstrate compliance with hazardous waste laws and regulations must be maintained on-site at all times and must be made accessible to regulators upon request.

RESPONSIBILITY: Hazardous Materials Coordinator

REFERENCE: 40 CFR 268.7 (a) (10)
40 CFR 265.16
40 CFR 265.73

PROCEDURES:

1. The following records must be maintained as part of the Hazardous Waste Operating Record:

- All waste Entry Logs must be maintained as part of the hazardous Waste Operating Record
- All Inspection Logs from the Accumulation Area
- All Hazardous waste manifests and exception reports
- Waste analyses performed to make hazardous waste determination
- A map of the hazardous waste accumulation area
- Training rosters (containing names, job position and date and type of training conducted) and certificates demonstrating compliance with mandatory training requirements.
- A written summary of all spills and incidents that occur that require activation of contingency procedures
- Any results of monitoring performed on Hazardous Waste Accumulation Area or to evaluate spills or incidents.
- Biennial reports submitted to EPA
- Position description for individuals assigned responsibility outlined in the Hazardous Waste Management Plan
- Copies of PIERC's most recent and up-to-date Hazardous Waste Management Plan and Standard Operating Procedures and the Oil and Hazardous Substance Spill Contingency Plan.

HAZARDOUS WASTE MINIMIZATION PROCEDURES

PURPOSE: To keep to a minimum the amount of hazardous materials purchased and hazardous waste generated within PIERC.

RESPONSIBILITY: All PIERC personnel

REFERENCE:

PROCEDURES:

1. In order to avoid overstock, individuals purchasing hazardous materials should check the hazardous materials inventories to ensure that the products are not bought if there is a supply available elsewhere at the Kilauea Field Station or other field stations.
2. Less toxic, more environmentally preferable products should be purchased if available.
3. Unneeded, damaged, leaking and excess hazardous materials must be turned in to the Hazardous Materials Coordinator to be managed as hazardous waste or, if appropriate, re-used elsewhere within PIERC.