

PROCEDURE PORT-WIDE WASTE MANAGEMENT AND MINIMIZATION	Procedure No.: PR-POR-WST-002
	Original Date: March 19, 2014
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	Owner: Land Quality Environmental Manager

1. PURPOSE

The purpose of this procedure is to ensure solid and hazardous waste, recycling and reuse streams are efficiently managed Port-wide in a manner that is in compliance with all legal and regulatory requirements, striving for waste minimization and moving toward zero waste in alignment with Port policy.

2. SCOPE

This procedure covers all waste & recycling streams and surplus for which the Port is responsible generated at Port of Portland facilities and operations, as well as construction waste, illicit dumping and/or abandoned waste left for the Port to manage or coordinate proper disposal. This procedure also includes waste managed by the Port on behalf the public and tenants as part of lease agreements.

Attachments to this procedure address site/operation-specific waste stream handling guidance. Activity-specific work instructions may also exist for specific activities – see cross references at the end of this document and/or access related documents in the Environmental Library on Navigator.

The Port also has a waste minimization outreach team and a program for tenants and customers for which the Port does not manage waste. This team encourages solid and hazardous waste minimization practices with a goal of moving toward zero waste.

3. DEFINITIONS

The following definitions shall apply.

3.1 CES

Community Environmental Services – a team of PSU college interns hired by the Port to coordinate and track and promote various aspects of the Port’s Waste Minimization Program; a key component of the Port’s Waste Minimization Team.

3.2 Hazardous Waste

- Listed waste: contains constituents from any of four waste lists in the federal regulations: non-specific sources (“F” wastes), specific sources (“K” wastes), acutely hazardous wastes (“P” wastes), or discarded commercial chemical products (“U” wastes). States can define additional state-specific hazardous wastes.
- Characteristic waste: exhibits one or more of four hazardous waste characteristics: ignitable, corrosive, reactive, or toxic.

3.3 MFM

MFM means Marine Facility Maintenance.

3.4 MX

MX means Aviation Maintenance (PDX, HIO, TTD).

3.5 OSHA

OSHA means Occupational Health and Safety Administration.

3.6 PCB

PCB means polychlorinated biphenyl.

3.7 Property Maintenance

Property Maintenance – also referred to as Landscape Facility Maintenance or LFM.

3.8 RCRA

RCRA means Resource Conservation and Recovery Act – Federal waste management regulations.

3.9 Solid Waste

Solid waste means any discarded material, abandoned, recycled, or considered inherently waste-like. Further details and exclusions are defined under [40 CFR 260.2](#).

3.10 Universal Waste

Universal waste means specified common waste streams that may otherwise be considered hazardous, that have different management standards in order to improve recycling and recovery and reduce regulatory burden on businesses that generate these wastes (batteries, PCB-containing light ballasts, agricultural pesticides, fluorescent and high intensity discharge lamps, thermostats, etc.)

3.11 Zero Waste

Zero waste is defined by EPA as 90% or greater landfill waste diversion.

Additional and expanded definitions are available in the Appendix of the EMS Manual.

4. RESPONSIBILITY

- 4.1 Environmental Affairs and EMS Program Manager is responsible for working with the Land Quality Environmental Manager to perform a periodic review of the contents and implementation of this work instruction and implement updates or corrective actions when needed.
- 4.2 Foreman and supervisors – designate waste & recycling handling instructions on work orders, preventative maintenance (PMs), or like documents that initiate work by maintenance staff, and consider waste management implications when specifying products and/or making purchasing decisions. Contact Environmental Operations for specific guidance or assistance with waste management and minimization requirements.
- 4.3 Land Quality Environmental Manager and staff (including onsite contractors such as the CES team) is responsible for providing expertise and guidance regarding waste management and minimization; coordinating management and facilitating the testing and disposal of potentially hazardous, special and universal wastes; coordinating management of solid waste streams; and tracking waste stream management costs and volumes by weight.
- 4.4 Maintenance, Janitorial, Distribution and Facilities Management Staff - includes PDX Maintenance, GA Maintenance, Marine Facility Maintenance (MFM), Property Maintenance (LFM), HQ Distribution and Facilities Management and Electrical Shop staff - are responsible for:
 - 4.4.2 Managing waste & recycling streams based on the location where the waste is generated in the manner compliant with regulations and Port policy/procedures, facilitated by Environmental Operations staff.
 - 4.4.3 Ensuring equipment (such as equipment containing oil or ozone depleting

substances) is tested and appropriately serviced before being transferred, disposed of, or put into the surplus pool, and

- 4.4.4 Working with the Land Quality Environmental Manager on recycling, reuse or disposal of materials with no saleable value.
- 4.5 Port Managers and Staff – manage waste with a goal of eliminating hazardous waste, landfill diversion and waste minimization; consider waste implications in specifications and purchasing.
- 4.6 Waste Minimization Team – are responsible for delivering waste management and minimization outreach as well as waste audits, tracking and reporting.

5. PROCEDURE

- 5.1 **All wastes and recyclables generated by Port operations** will be managed at locations established by the Port of Portland under the oversight of the Land Quality Environmental Manager and staff in alignment with the Port’s Waste Minimization Policy.
 - o Identify, quantify, characterize and document each waste stream to determine if it is a hazardous waste, special waste, or non-hazardous waste;
 - o Work to reduce waste at the source through sustainable procurement and minimize waste through reduction, reuse and recycling;
 - o Find markets for solid waste streams that cannot be reduced;
 - o Ensure appropriate labeling, storage and timely management;
 - o Ensure all wastes are handled in a safe and legal manner and are recycled or disposed of properly.
 - o Promote the purchase of recycled and reused materials when making purchasing decisions.
- 5.1.1 For assistance with understanding hazards, handling, storage, labeling and/or disposal requirements, contact Environmental Operations or the Waste Minimization Team (CES).
- 5.1.2 The foreman and supervisors will designate waste handling instructions on work orders, preventative maintenance (PMs), or like documents that initiate work by maintenance staff as well as consider waste management implications when specifying products or making purchasing decisions.
- 5.2 **General Waste Handling Guidance by Waste Type:**
 - 5.2.2 **Non-hazardous wastes(s)**: Wherever feasible, we encourage waste minimization and landfill diversion by reducing waste at the source, product take-back agreements, and identifying opportunities for reuse and recycling. Periodically, the Port’s Waste Minimization Team conducts waste audits in an effort to identify opportunities and track improvements over time.
 - 5.2.3 **Special wastes**: some solid wastes, while not considered hazardous under RCRA, still require special handling, permits, shipping manifests, and recordkeeping. Examples include: used oil, bead blast that isn’t hazardous,

e-waste, storm sewer or trench cleanout, sweepings collection or the solids from runway rubber removal and some off-spec commercial chemical products.

5.2.4 **Hazardous and unknown materials:** require special handling, labeling, permitting, storage, and timely disposal. References to determine if a waste is hazardous (listed or characteristic) include Safety Data Sheets (SDS), Technical Data Sheets, Niosh Pocket Guide to Chemical Hazards, and/or the Emergency Guidebook to understand hazardous materials and associated labeling, storage, handling and disposal requirements as well as incompatibility considerations.

- o Ensure the container compatible with the intended contents and is properly labeled. An accumulation start date should be included on the label when the first waste is deposited into the container.
- o Ensure the lid is securely closed except when adding or removing waste.
- o Ensure incompatible wastes are managed and stored separately.
- o Arrange for proper disposal in a timely manner. Frequency of hazardous waste disposal is regulated by generator status. Specific training is required for staff completing shipping manifests for hazardous waste. Manifests must be tracked to ensure the specified disposal site received the waste and actions taken if a signed copy of the manifest indicating receipt of the shipment is not returned in a timely manner.
- o The Port tracks all hazardous waste disposal to demonstrate generator status and to identify opportunities for improved management and minimization. Generator status dictates the frequency at which hazardous waste must be disposed, documentation, training, and other requirements.
- o For assistance with managing hazardous wastes or unknown materials that may be hazardous, and arranging for pick-up and disposal contact Environmental Operations.

5.2.5 **Universal waste:** similar to hazardous wastes, universal wastes must be managed in containers, compatible with the waste, labeled with "Universal Waste" and the contents and dated when the first waste materials were deposited, with lids securely closed except when adding or removing materials. The waste must be managed in specific accumulation area. Waste volumes by weight are tracked by the Waste Minimization Team. Procedures pertaining to specific waste stream handling – such as batteries, are outlined in operations-specific work instructions and/or the operations area summaries associated with this procedure.

5.3 **Common Specific Waste Stream Management:**

5.3.2 **Abandoned waste and illicit dumping:** Work with Metro's Regional Illegal Dumping (RID) Patrol team to address abandoned waste and illicit dumping on Port properties, adjacent properties/roadways or properties maintained by the Port. For areas outside of the Metro service area, contact Environmental Operations.

5.3.3 **Aerosol cans and puncturing units:** Un-punctured aerosol cans are

handled as hazardous waste. When cans have been properly punctured and the residues drained, they can be placed in the appropriate scrap metal recycling bin. The drained liquids must be contained and managed as hazardous waste. (Responsibility: Maintenance Staff). Designated Environmental Operations staff checks the satellite collection station periodically (frequency depends on location) for added contents (weight), and, when full, coordinates testing, staging and disposal. Ensure the puncture station filter is maintained and changed as needed. When changing the filter, evaluate for hazardous characteristics prior to disposal.

5.3.4 **Asbestos:** historically, asbestos was commonly used in a variety of construction products including insulation, pipe lagging, ceiling tiles, floor coverings, and other materials. It is a known carcinogen and requires special handling and disposal. Specific OSHA regulations and training requirements exist for workers involved in asbestos projects or that have the potential for asbestos exposure. Generally, the Port hires third-party contractors to identify, manage and remove asbestos containing materials. Asbestos-containing materials are more commonly found in structures and equipment predating 1980. If work is planned on a structure or equipment that may have asbestos containing materials, contact Environmental Operations (Land Quality Environmental Manager).

5.3.5 **Batteries:** Batteries contain hazardous materials and are handled in accordance with Universal Waste rules. Segregate and store spent batteries by type in properly labeled (including accumulation start date), lidded containers. In general, the Port collects and recycles all batteries. The Port handles lead-acid batteries in accordance with 40 CFR 266.8 (Subpart G) which makes them exempt from the hazardous waste regulations if they are reclaimed. See area specific guidance (attached to this document) for details on collection areas and practices specific to the types of batteries collected for recycling and the associated collection areas.

Alkaline batteries may be disposed of in general trash, however the Port generally prefers to collect and recycle alkaline with the general battery collection.

5.3.6 **Bulbs and Lamps:** Fluorescent tubes, HIDs, LEDs, etc. Taken to designated collection areas (see attachments for details pertaining to Port operating areas) for recycling by approved vendor. Incandescent, halogen, and LED lamps do not contain mercury and may be disposed as normal trash, however the Port typically recycles these with other lamps. Bulbs are staged in approved, labeled (including accumulation start date) containers for recycling with the lids maintained securely closed except when adding lamps. Pick-up coordinated by Environmental Operations staff.

5.3.7 **Cardboard and Paper:** Recycle all cardboard and paper products where feasible.

5.3.8 **Construction Debris:** By law, construction projects that meet a threshold cost are required to recycle materials. This is incorporated into the contractor agreement and includes monthly waste management reporting as well as a summary of waste generation and recycling at the end of the Port project. Materials that test as hazardous must be managed accordingly.

- 5.3.9 **Empty Drums**: all original labels should be marked through and the drums should be marked with an “Empty” or “MT” label and moved to an empty drum collection area. It is best practice to also label the empty drum collection area. Drums damaged or worn beyond reusability should be removed from service and properly recycled or disposed of.
- 5.3.10 **Emergency and spill cleanup materials**: Any leaks and spills shall be reported to Environmental Operations and cleaned up per the relevant operations Spill Prevention, Control and Countermeasure Plan (SPCC) and the Spill Response Plan. Handling and disposal requirements may vary based on the materials, contact Environmental Operations (Land Quality Environmental Manager) for assistance.
- 5.3.11 **E-Waste**: E-waste is comprised of unwanted electronic equipment including computers, mobile phones, printers, office electronic devices, televisions and cathode ray tube (CRT) monitors. E-waste is managed as potentially hazardous waste due to the common presence of heavy metals such as lead, cadmium, and mercury. Generally, e-waste is managed and tracked through the Port’s IT department. Port Distribution coordinates recycling with the designated vendor. E-waste is also collected at the Hazardous Materials Building for recycling and appropriate disposal through contracted vendors. Periodically, Environmental Operations will coordinate a special collection event to manage tenant e-waste and other recycling.
- 5.3.12 **Food Waste**: food waste should be disposed of in designated compost bins (where available) or in disposal bins that are on a regular (weekly) pick up schedule. Ensure lids remained closed except when adding or removing materials.
- 5.3.13 **General Refuse**: the Port has a goal of zero waste (90% or greater landfill waste diversion) Port-wide. To ensure the Port achieves and maintains this goal, ensure only non-recyclable, non-hazardous and/or other wastes with no special management requirements (universal/special wastes) end up in the general refuse. Recycle and manage these other items as designated in this procedure. Ensure dumpster lids remained closed except when adding or removing materials. For assistance, contact Environmental Operations.
- 5.3.14 **Materials past useful life**: damaged or worn materials - beyond reusability should be properly recycled or disposed of.
- 5.3.15 **Metals/Scrap**: Collect all metals for recycling. When feasible, segregate non-ferrous metal waste streams to improve revenue/cost recovery. Aerosol cans that have been properly punctured and drained can be included in the scrap metal recycling stream. Ensure dumpster lids remained closed except when adding or removing materials or the bins are covered in order to protect stormwater.
- 5.3.16 **Painted surfaces, paint chips and paint containing heavy metals**: generally, the Port hires third-party contractors to identify, manage and remove paint containing heavy metals (such as lead based paint). Because the management threshold for lead-based paint is low and the Port owns and operates a variety of older facilities and equipment, our standard practice is to treat all painted surfaces as if paint containing heavy metals is present. If work is planned on a structure or equipment, contact Environmental

Operations (Land Quality Environmental Manager).

- 5.3.17 **PCB wastes:** Older electrical equipment, such as transformers, capacitors, electric motors, and light ballasts may contain PCBs. All PCB-containing equipment should be labeled as such, but any equipment older than 1980 should be tested prior to disposition or treated as hazardous waste. Any light ballasts not specifically labeled as “No PCBs” should be handled as PCB containing materials and managed as hazardous waste.
- 5.3.18 **Plastics:** Collect all plastics that are accepted for recycling. When feasible, segregate plastics waste streams to improve recycling opportunities/ costs/ recovery for these waste streams.
- 5.3.19 **Scrap Metal:** Collect all metals for recycling. When feasible, segregate non-ferrous metal waste streams to improve revenue/cost recovery. Aerosol cans that have been properly punctured and drained can be included in the scrap metal recycling stream. Ensure dumpster lids remained closed except when adding or removing materials or the bins are covered in order to protect stormwater.
- 5.3.20 **Shop Rags/Wipes:** Rags are centrally collected and managed based on generator knowledge at each site. Used rags are generally collected in 55-gallon metal drums at the site of use, and then full drums are delivered by maintenance to the Hazardous Materials (HazMat) Building for any necessary testing and coordination of disposal. Used shop rags are currently disposed at an approved landfill under permit as special waste. We will continue to evaluate opportunities to minimize this waste stream through procedures or laundering services that meet the Port’s needs.
- 5.3.21 **Styrofoam:** look for opportunities to recycle and reuse Styrofoam where feasible. Vendors periodically accept block Styrofoam, depending on the market. Styrofoam peanuts are often accepted for reuse at post-office-box and mailing retail stores such as UPS. Contact the Waste Minimization Team for assistance.
- 5.3.22 **Tires:** transfer used tires to recycling staging areas (designated in operations area attachments to this procedure). Ensure tires are properly stored, covered and protected from stormwater. A facility that stores more than 99 tires onsite must have a storage site permit, unless granted a beneficial use permit by DEQ. Generators are allowed to haul scrap tires generated at their facility without a permit, but they must maintain documentation of their disposal. As a best practice, label the area where used tires are collected. Maintenance Staff or Environmental Operations Staff coordinates recycling of used tires.
- 5.3.23 **Used oil and oil containing equipment:** generally, the Port collects used oil for recycling (energy recovery) through a licensed vendor or as onsite fuel space heating (heat recovery). Some Port maintenance shops have used oil burners used for heating. All used oil should be tested for likely hazardous contaminants (such as chlorinated solvents and heavy metals) prior to transfer for recycling, disposal or use in shop heaters. Records of the tests should be maintained for at least three years. Used oil that tests as hazardous, should be managed as a hazardous waste. Used oil volumes should also be tracked by their final disposition (recycling, heat recovery,

disposal). Ensure all used oil collection containers, including catch pans that contain oil overnight, are labeled “used oil.”

To maintain used oil transporter status – for transfer of used oil to maintenance shops for heating – the Port must submit an Annual Hazard Waste Report to Oregon DEQ (due March 1 of each year). This is required to maintain transporter registration – regardless of generator status.

When the Port divests of equipment that it no longer needs through the government surplus system or, when there is limited or no value, through donation or recycling, any oil containing electrical equipment should be tested for PCBs prior to transfer/disposal. For all surplus or salvage equipment or materials see the [Port Surplus and Salvage Materials procedure \(PR-POR-WST-001\)](#).

- 5.4 **Satellite accumulation** for hazardous wastes is allowed near the workstation where the waste is being generated and in control of staff aware of proper spill response actions. The container must be labeled and securely closed except when adding or removing wastes. No more than 55 gallons can be accumulated, and once the 55 gallon limit is reached, the drum must be moved to the hazardous waste storage area within three days.
- 5.5 **Storage:** Generally, it is good to segregate wastes and recycling whenever possible to improve opportunities for recycling and cost recovery. In addition, all wastes should be stored in doors, under cover or in covered containers. Hazardous wastes and universal wastes have more specific requirements for storage and disposal:
- Wastes must be stored in tanks or containers with the lids securely closed unless adding or removing waste;
 - Dumpsters should be maintained under cover or with the lids closed unless adding or removing waste.
 - Containers must be in good condition and compatible with the wastes
 - Containers must be managed to prevent rupture or damage
 - Drums must be appropriately labeled indicating contents
 - Incompatibles must be separated
 - Drums cannot be stacked over 2 drums high
 - Aisle space must be adequate to allow full inspection of each container with documented weekly inspections
 - Containers must be labeled “Hazardous Waste” or “Universal Waste” as applicable to the contents and the date waste was first placed in the container and visible as well as readable.
 - “No Smoking” signs must be posted if ignitable or reactive wastes are being stored.
- 5.6 **Shipping:** Wastes, such as hazardous, universal, or special wastes, that require manifests or special shipping papers must be prepared and signed by staff with

appropriate training. Generally Environmental Operations Staff fulfill this role.

- 5.7 **Record Keeping:** provide an original or a legible copy of all shipping papers (weight tickets, manifests, bills of lading, certificates of recycling or other) to the Environmental Operations Staff for waste/recycling tracking for any wastes shipped or taken offsite. This information is used to demonstrate compliance as well as to identify opportunities for improved management and reduced waste. Records should be maintained at the facility where the waste was generated.
- 5.8 **Training:** from a regulatory perspective, training requirements are dictated by generator status and the material being managed. Port hazardous waste operations are generally classified as conditionally exempt small quantity generators (CESQG). Depending on the employee's duties, job-specific training may be required to comply with EPA, DEQ, DOT, and OSHA regulations with respect to handling, storing, and transporting hazardous materials and wastes. In order to maintain awareness and implement best practices, the Port also strives to reach all employees with communications related to waste management and minimization as well as providing periodic training and outreach.
- 5.9 Additional detail and guidance related to typical waste streams generated by specific Port operations is provided in attachments to this procedure and/or in operations/activity-specific work instructions.
- 5.10 **Any questions regarding handling, storage and disposition of waste or recyclable material** should be directed to the Environmental Operations Department, Land Quality Environmental Manager, Waste Minimization Team (CES) or staff with waste management and minimization responsibilities.

6. VERIFICATION AND CORRECTIVE ACTION

- 6.1 This work instruction is to be reviewed at a minimum every two years by the Land Quality Environmental Manager and EMS Program Manager to verify the purpose and scope is applicable to Port needs and the steps within adequately support the purpose and scope. If deficiencies are discovered, corrective action will be taken.
- 6.2 Port conformance with this procedure will reviewed on a periodic basis as part of the environmental audit process. If nonconformance is discovered, corrective action will be taken.

7. RELATED POLICIES, PROCEDURES, AND GUIDELINES

- 7.1 Policy [6.1.11](#), *Environmental Policy*
- 7.2 Policy [7.4.12](#), *Waste Minimization*
- 7.3 Policy [7.2.16](#), *Sustainable Procurement*
- 7.4 Abandoned Compressed Gas Cylinder Handling Work Instruction ([WI-AVI-WST-005](#))
- 7.5 Decant and Solids Collection Box Management: Wastewater Batch Discharge and Solids Management Work Instruction ([WI-MID-WTR-002](#))
- 7.6 Disposal of Chlorinated Water: Hydrant & Water Line Flushing Work Instruction ([WI-POR-WTR-010](#))
- 7.7 Managing Ozone Depleting Substances Work Instruction ([WI-POR-AIR-004](#))
- 7.8 Runway Rubber Removal Work Instruction ([WI-AVI-WTR-004](#))
- 7.9 Port Surplus and Salvage Materials Procedure ([WI-POR-WST-001](#))
- 7.10 Used Oil Management (Aviation) Work Instruction ([WI-AVI-WST-004](#))

8. ATTACHMENTS

- 8.1 [Waste Management at Aviation Operations and HQ: Portland International Airport \(PDX\), MX Operations, Central Utility Plant \(CUP\), and Building MX Shop, Troutdale \(TTD\) MX, Hillsboro \(HIO\) MX, and Port Headquarters \(HQ\).](#)
- 8.2 [Waste Management at Navigation Base and Dredge Operations](#)
- 8.3 [Waste Management for Marine and Industrial Development Operations and T6 ICTSI Leasehold and Electric Shop.](#)
- 8.4 [Waste Management – Tenants, Properties, Construction Waste, and Contaminated Sites](#)

9. REVISION HISTORY

Procedure No. PR-POR-WST-002: Port-Wide Waste Management And Minimization	
Date	Description of Modification
Various: 2000 through 2013	Specific waste handling work instructions were developed for each waste stream and sometimes customized by location or facility.
03/19/2014	<p>01/28/2014: this procedure updates and consolidates previous waste management work instructions by providing a Port-wide Procedure and general guidance that addresses waste management at the operational area or waste stream level. It also reflects changes in roles, responsibilities and titles as part of organizational changes.</p> <p>This replaces the following work instructions:</p> <ul style="list-style-type: none"> • MID Waste Management Work Instruction WI-MID-WST-002 • T6 Electrical Shop Waste Management Work Instruction WI-MID-WST-003 • MID Hazardous Waste Management Work Instruction WI-MID-WST-004 <p>This Port-wide procedure was reviewed and approved by the Environmental Core Team on March 19, 2014.</p>
09/01/2015	Updated specific waste management guidance per recommendations from internal audit.