Portland Community College Health & Safety Manual	Dept: **Environmental Health and Safety**	
	Topic: **Chapter 21 — Regulated Waste Program**	
	Board Policy: **B507**	Revised Date: **December 2024**

Authority	**PCC Board Policy—B507**
	Portland Community College is committed to providing a safe and healthy work and educational environment for our employees, students and visitors.

Summary	The Regulated Waste Program has been developed to assist PCC employees to comply with current and ever-increasing Department of Environmental Quality (DEQ) and Environmental Protection Agency (EPA) requirements regarding the disposal of regulated waste generated in small "bench scale" volumes commonly found in classrooms and laboratory settings, as well as regulated wastes generated on a larger scale from Facilities Management Services operations and maintenance, and in industrial shops.

I. PURPOSE

The purpose of this program is to give guidance for assessing and determining the general characteristics of regulated wastes generated by Portland Community College (PCC) departments. This program is designed to meet or exceed current regulatory standards for the management of those regulated wastes; whether they are classified as hazardous, biological, universal, or non-hazardous.

The program has been adapted to current PCC policies and procedures in such a way that it is user friendly for the purpose of obtaining a high level of consistent involvement by the departments. As a result, PCC has reduced the amount of regulated waste generated, thus simplifying the overall process, the liability of PCC, and lowering costs.

The program has been developed to include all of PCC's operations, whether the volumes are large or small and whether they are from maintenance activities or academics. Having one plan for all PCC operations will simplify the management efforts needed by Environmental Health and Safety (EH&S) and increase the department's effectiveness due to consistency throughout the district.

This plan does not cover electronics waste and broken appliances destined for recycling through Central Distribution Services (CDS). More information on the disposal procedures for those waste streams is available from CDS.

II. AUTHORITY

- PCC Board Policy – B507
- 40 CFR 260-263, 270, 273 Resource Conservation and Recovery Act (RCRA)
- OAR 340 Divisions 100-103, 109-113, and 142 Hazardous Waste Management
- OAR 437 Division 2 – 1910.120 Hazardous waste operations and emergency response
- OAR 437 Division 2 - 1910.1030(d)(2)(viii) & (xiii) – Biological waste containers
- OAR 437 Division 2 – 1910.1450 Occupational exposure to hazardous chemicals in labs
- 49 CFR 171-172 – Department of Transportation, Hazardous Material Shipping

Other related Health & Safety Manual Chapters:
Chapter 4 - Bloodborne Pathogen Exposure Control Plan
Chapter 9 - Chemical Hygiene Plan

III. RESPONSIBILITY

Responsibility for the success of the Regulated Waste Program rests at all levels in the College and is described as follows:

Supervisors/Managers/Deans

- Ensure all employees receive initial as well as in depth on the job training of the Regulated Waste Program and understand their role in regulated waste management at PCC.
- Maintain annual records of this training for all their employees.

Environmental Health and Safety (EH&S)

- Develop and facilitate general Regulated Waste training.
- Maintain records of waste determinations for the district.

- Schedule and oversee all regulated waste disposal activities and ensure all regulated waste is disposed of within the regulated timeframes.
- Provide technical support to employees and departments for any regulated waste generated by PCC.
- Manage all Central Accumulation Areas (CAA) including inspections.
- Maintain all records and manifests from regulated waste shipments.
- Ensure DEQ compliance district wide and submit yearly DEQ Hazardous Waste reports.

Instructional Support Technicians (IST)/Project Managers

- Perform initial waste determinations for any regulated waste generated in their assigned work areas.
- Submit waste determination information to Environmental Health and Safety.
- Perform Satellite Accumulation Area (SAA) Inspections for areas they manage.
- Maintain all records for assigned SAAs including all Satellite Accumulation Logs and Inspection forms.
- Ensure regulated waste is stored in compatible containers and only with other compatible regulated wastes.

All other Employees

- Read the Health and Safety Manual and understand their roles and responsibilities for applicable safety programs.
- Follow all procedures outlined in the Regulated Waste Program
- Know the locations of the SAAs closest to their assigned work area.

IV. PROCEDURES

A. RCRA Reporting and Compliance

The Resource Conservation and Recovery Act (RCRA) was enacted to protect human health and the environment by establishing a framework for a national system of regulated waste control. RCRA focuses both on non-hazardous as well as hazardous waste requirements and is implemented through regulations developed by the Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (DEQ).

These regulations outline how regulated waste is to be managed based on a facility's hazardous waste generator status. Each campus and center at PCC has its own status with many of PCCs facilities classified by DEQ as Very Small Quantity Generators (VSQG) and two PCC campuses classified as Small Quantity Generators (SQG). A campus or center can change status from one year to the next based on the amount of regulated waste generated by that location. The generator status dictates several aspects of regulated waste management including allotted storage time for Central Accumulation Areas (CAA), inspection schedule, and the level of training employees receive.

The overall regulatory framework established by EPA to manage hazardous waste from the point of generation, through transportation, to storage and/or disposal is referred to as the “cradle to grave” system. These regulations require detailed recordkeeping and reporting of all hazardous waste operations including waste determinations, shipping manifests, and annual hazardous waste reporting.

Each regulated waste shipment from PCC generates a manifest that details the quantity and classification of the regulated waste shipped. The manifest stays with the shipment all the way to the designated disposal facility at which time it is returned to the generator for recordkeeping. The information on these manifests is then used for the DEQ Annual Hazardous Waste Report. This report details the regulated waste activities (including quantities, classifications, and on occasion specific contents of regulated waste generated) of

a given location for a calendar year and is used to determine the hazardous waste generator status. All shipping manifests are maintained by EH&S.

B. Assessment and Determinations

1. Regulated Waste Categories

PCC's academic labs, vocational training classes, and facility maintenance operations produce regulated waste products that when classified, fall into one of the following categories:

a. Hazardous Waste: If the regulated waste exhibits any one or more of the following characteristics, or is a listed 40 CFR 261.33 (e, f) chemical (see *Appendix B*), it will be classed as a hazardous waste.

i. Ignitable Waste: The hazardous waste material has a flashpoint less than 140 degrees Fahrenheit. Examples include chemicals such as toluene, acetone, alcohols, paints, cleaning solvents, Art and Dental Department solvents, and petroleum-based paints.

ii. Corrosive Wastes: To fit this category the hazardous waste must have a pH equal to or less than 2 or equal to or greater than 12.5. Examples include Sodium Hydroxide, Sulfuric Acid, Hydrochloric Acid, Acetic Acid, and Battery Acid.

iii. Reactive Waste: This includes any hazardous waste material that is reactive to water, shock, heat, or pressure; or is normally unstable and easily undergoes violent change without detonation. Also included are sulfide or cyanide bearing wastes which when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors, or fumes sufficient to present a danger to human health.

iv. Inorganic Solutions containing heavy metals: The heavy metal's list includes lead, chromium, selenium, mercury, arsenic, cadmium, silver, and barium. Any mixture or solution containing one or more of these metals is included in this category.

v. Toxic Waste: includes materials not categorized in the preceding categories and which are determined to be a hazardous waste because they are listed either by name or process. This includes materials listed in 40 CFR, Section 261.33, which is a summary of chemicals that are hazardous due to either their process of generation (cleaning with chlorinated solvents) or because of the toxicity. Examples include lead, silver, formaldehyde, and benzene. Note: Because the toxic waste category can be somewhat confusing, please contact EH&S for assistance.

b. Biological Waste: Any regulated waste containing body fluids (blood, saliva, urine), or specimens for dissection such as frogs and pigs are classified as biological waste.

c. Universal Waste: There are currently four types of hazardous waste considered Universal Waste in Oregon: Batteries, Pesticides, Mercury containing equipment, and Mercury containing lamps. PCC manages these items as Universal Waste so they can be recycled or reclaimed.

d. **Non-hazardous Managed Waste:** There are a variety of non-hazardous wastes generated by PCC. Examples include the following: fluids used in preserving dissection specimens, used oils, engine coolant, water soluble machining oils and catch basin sludge.

2. Waste Determination

To ensure proper management of these regulated wastes it is critical that the process of assessment and determination be carefully performed. The key step to successful control of regulated waste is the pre-generation waste determination. This is the process of evaluating what the regulated waste will be before the waste is generated or immediately after the lab or project is completed. Before preparing the chemicals and/or supplies for use on a project or lab procedure, the employee should take the time to review the Safety Data Sheet (SDS) of any chemicals that might be used as well as the proposed procedure for the project. This information along with the employee's expertise should be used to determine the proper category of the regulated waste to be generated. Once the initial waste determination is complete and before the employee starts the project, the employee should make sure compatible container(s) and storage are available.

The waste determination should include what personal protective equipment (PPE) is needed while handling the regulated waste. Typically, the PPE needed for handling the regulated waste will be the same that was needed while performing the lab or work task, but a full assessment should be completed to ensure a higher level of protection isn't required. There should also be an evaluation for what spill response material is needed for the regulated waste. Each department should make sure the proper neutralizers and absorbents are stored at the Satellite Accumulation Area (SAA) in case of an accident or spill.

For academic departments, all determination information should be stated on the lab/project procedural documents and should describe what steps are to be taken as the "final step" towards completion of the lab/project. In the case of the Facilities Management Services (FMS), waste determination information should be stated in the Service Request Center (SRC) Work Order in the notes.

Once the work task or lab is completed, employees should verify that the regulated waste generated matches the characteristics anticipated. This double check ensures that other materials were not accidentally mixed together. If there is any question as to the contents of the regulated waste or what category the waste stream should fall in, the regulated waste should be classified as Hazardous.

C. Waste Handling by Category

1. Hazardous waste

Hazardous waste is the largest category of regulated waste generated at PCC.

Any regulated waste determined to be hazardous should be put in containers compatible with the characteristics of the hazardous waste. All containers should be labeled and include the phrase "Hazardous Waste," the name of the department that generated the hazardous waste, all applicable hazard characteristics, a description of the contents, and the date. Examples of labels and containers can be found in the *Appendix F: Waste Containers and Labels Fact Sheet*. This labeled container can then be added to the Satellite Accumulation Area (SAA) for the department that generated the hazardous waste.

Once the hazardous waste is stored in the SAA, *Appendix D: Hazardous Waste Log* for that SAA should be filled out and should include information specific to the constituents of that hazardous waste container. It is important to complete this information for compliance with DEQ criteria. An Excel sheet version of this log can be requested from EH&S.

Many aerosol products such as cleaners, spray paints, and adhesives contain chemicals that are considered a hazardous waste and must be disposed of as such. Even an empty aerosol container which has not been depressurized is considered a reactive hazardous waste. Because waste aerosol cans must be managed as hazardous waste they cannot be thrown in the trash. Aerosol cans for disposal should be stored in a SAA in a labeled, plastic, screw-top bucket.

2. Biological waste

Most biological waste at Portland Community College is generated by the health professional courses, veterinary courses, or biology departments and can be sorted into two categories.

Regulated Medical waste includes:

- Sharps such as needles, scalpel blades, or microscope slides
- Laboratory waste like test tubes and media plates that were inoculated
- Bodily fluids like blood, saliva, and urine
- Gloves or other material that contain free liquids

Pathological waste includes:

- Animals used for dissection
- Human source tissue that emanates from a medical procedure.

All biological waste should be disposed of in red color-coded containers and bags. All sharps should be disposed of in strong, puncture resistant containers and the full containers disposed of with other Regulated Medical Waste. (More information can be found in *Chapter 4 – Bloodborne Pathogens Exposure Control Plan*.) All containers must be marked with the Biological Hazard symbol and one of the following phrases: “Biohazard”, “Biological waste”, or “Regulated Medical Waste.” Full sharps containers and pathological waste must be collected in reusable plastic totes or sturdy cardboard boxes supplied by a biological waste disposal vendor.

3. Universal waste

The Universal Waste (UW) Rule permits certain hazardous wastes to be managed under streamlined requirements that encourage the collection, recycling and/or proper disposal of these hazardous wastes. Portland Community College has elected to manage all UW according to DEQ’s more stringent Small Quantity Generator (SQG) requirements. These requirements allow the UW to be stored for no more than one year. Each campus or center will have at least one storage area for all types of UW.

The four types of UW recognized by Oregon are batteries, mercury containing lamps, mercury containing equipment, and pesticides. Each of these UW have specific management requirements outlined below.

a. Batteries

Improper storage and handling of UW batteries can pose special health and safety risks. When accumulating different types of batteries, employees should be aware that some types may be incompatible with each other. Explosion is another potential risk when batteries are stored in contact with one another. Spent batteries that contain a

residual charge when collected together may discharge each other, creating heat and forming hydrogen gas. If the container is not properly ventilated there is a potential for an explosion.

There is also a potential for partially corroded batteries to leak corrosive chemicals. If proper precautions are not taken, employees handling batteries may get chemical burns on their skin. Employees handling batteries should protect themselves by wearing personal protective equipment (PPE) such as safety glasses and gloves.

PCC's management of spent batteries has been designed to comply with Or-OSHA requirements and be consistent with the information provided with the battery's SDS. SAAs are maintained across the district for collection of spent batteries. These SAAs are routinely monitored, and the collection containers emptied to ensure disposal of the waste batteries occurs within the time limits required for a SQG.

Containers of UW batteries must be labeled or marked clearly with one of the following phrases, "Universal Waste--Batteries," "Waste Batteries," or "Used Batteries." The container lid must stay closed unless batteries are being added.

b. Mercury-Containing Lamps

A mercury containing lamp is defined as a lamp in which mercury is purposely added by the manufacturer for operation of said lamp. PCC has expanded the list of universal waste lamps managed as universal waste to include high-pressure sodium and metal halide lamps due to the fact they might contain mercury and lead.

As soon as work is completed that generates waste lamps, the lamps should be taken to the campus UW SAA and the lamps placed in cardboard boxes according to their type. The cardboard boxes should be large enough to contain the length of the lamp and still close completely. All boxes must be clearly marked with one of the following phrases: "Universal Waste- Lamps," "Waste Lamps," or "Used Lamps." If the universal waste lamps contain mercury, the label must clearly read "Universal Waste-Mercury containing lamps," "Waste Mercury Containing Lamps," or "Used Mercury Containing Lamps." All labels must also include the date that the first lamp was placed in the box. All boxes should remain closed unless universal waste is being added. Employees should notify EH&S when UW containers become full so that more containers can be provided.

Use caution when moving and storing universal waste lamps to reduce breakage and prevent release of any of the components of the lamp to the environment. In the event a lamp is broken or damaged, immediately clean up and store the broken components in a separate box that can be completely closed.

c. Mercury Containing Equipment

There are several applications across the district where mercury containing equipment is used. Most common are mercury containing thermostats and thermometers. PCC has been working to replace any mercury containing equipment found during maintenance projects with more efficient and environmentally friendly options.

Employees should use caution when performing maintenance work with any equipment that has the potential to contain mercury. Employees should wear appropriate PPE and have mercury spill response material on hand in the event that a piece of equipment is damaged allowing for the release of mercury vapors or elemental mercury.

All equipment removed and designated as universal waste must be stored in sturdy containers that can be completely sealed. The container must be labeled or marked

clearly with any of the following phrases: “Universal Waste – Mercury Containing Equipment,” “Waste Mercury Containing Equipment,” or “Used Mercury Containing Equipment.” The label must also include the date that the first piece of universal waste equipment was added to the container.

d. Pesticide Waste

PCC participates in Oregon’s Integrated Pest Management (IPM) program. With this program PCC has been able to reduce pesticide usage by close to 90% across the district. The majority of pesticides used are environmentally safe, non-EPA regulated chemicals with low hazard ratings. PCC's policy is to use pesticides as directed on the label, completely emptying the containers. All empty containers are to be "triple-rinsed" and the rinsate poured into the spray tank. Metal containers after "triple-rinsing" are to have three holes punctured into them and then the cans crushed prior to placement in metals recycling. Plastic caps and label sleeves should be removed from plastic containers after they have been "triple rinsed." Any containers not rinsed, are to be classed as regulated waste and placed into a SAA and a waste log completed.

4. Non-hazardous Managed Waste

There are a variety of non-hazardous wastes generated at Portland Community College that have their own dedicated management. This includes used oils, engine coolant, water soluble machining oils, and used oil filters.

Most of the used oils, coolants, and fluids used in automotive departments and other similar trade courses are stored in containers specific to the fluid. At the end of each term, a used oil contractor is scheduled to come and empty the containers and the fluids are taken for recycling. For more detailed procedures on used oil storage containers, see *Appendix G: Bulk Used Oil Tanks*.

Used oil filters are stored in a metal, open top 55-gallon drum marked "used oil filters for recycling." When the drum is 90% full, the employee managing the SAA should submit an SRC for EH&S to schedule a pickup of the filters by a used oil contractor.

There are some organic non-hazardous wastes commonly found in the Biology and Medical Labs which might be assessed and determined to be non-hazardous. Examples of these types of non-hazardous wastes are agar, sugar solutions such as glucose and sucrose, broth solutions, and starch solutions. These non-hazardous wastes and solutions containing low concentrations (no more than 5% or 0.2M) of the non-hazardous chemicals can be disposed of via the sink to the sanitary sewer in volumes not exceeding two liters. Employees should not dilute solutions to fall within the concentration limits for sewer discharge. *Appendix E: Sewer Discharge Log* is to be completed each time non-hazardous organic waste is disposed of down the drain.

5. Items for Surplus

PCC manages surplus items and certain non-regulated waste streams (e.g., metals for recycling, old electronics, and broken appliances) through Central Distribution Services. Any department who will be offering equipment for surplus or recycling that was used for a process involving a hazardous substance must ensure the equipment is appropriately cleaned and decontaminated before the request for pick up is submitted. All chemicals must be removed from the process equipment and managed according to their hazardous waste classification. Any equipment that contained or contacted biological hazards must be decontaminated and sanitized with appropriate chemicals and procedures. Confirmation of the decontamination must be included in the SRC Work Order.

D. Storage Procedures

1. Satellite Accumulation Areas

Departments can store certain quantities of regulated waste at or near their point of generation where regulated waste initially accumulates and is under the control of the employee overseeing the regulated waste. PCC's EH&S office can assist in designating these SAAs as well as obtaining containers and labels and can assist with understanding the use of the different logs. Each location will be clearly labeled as a "Satellite Accumulation Area" and must be inspected weekly to ensure proper management. All regulated wastes are to be labeled and kept in containers sufficient to safely contain the waste. Each SAA will have the appropriate neutralizers and absorbent spill response material available and easily accessible for all types of regulated waste held in that area. For those regulated waste streams that require gloves as part of the PPE, disposable gloves rated for the material being handled will also be easily accessible.

For some SAAs at PCC, there are bulk containers for the collection of regulated waste solutions. Examples include used automotive fluids, paint thinners, and lacquers. For these bulk containers, employees should complete an accumulation log to record the description of the regulated waste added, the quantity of waste added, and the date when it was added. Employees should use *Appendix C: Satellite Accumulation Log* for this purpose.

Weekly inspections should be performed using *Form 1: Satellite Accumulation Area Inspection Checklist* which includes key inspection criteria.

For those employees who are assigned the management of a SAA, a SRC request should be submitted through ReADY to move regulated waste whenever the SAA is full or it is the end of the term. A completed Hazardous Waste Log or Satellite Accumulation Log for bulk containers should be attached to the work order. Once the SRC has been received, EH&S will move the regulated waste to the Central Accumulation Area (CAA) for the generating campus.

2. Central Accumulation Areas

Each of the main campuses at PCC have a dedicated Central Accumulation Area (CAA) for the regulated waste generated at that campus. For Sylvania and Rock Creek, the CAAs are stand-alone storage structures designed specifically for storage of regulated waste and fire rated for that purpose. At Southeast and Cascade, the CAAs are storage rooms with exterior entrances that have been designated for the sole purpose of storing regulated waste. Access to these CAAs is restricted and all activities are managed by EH&S. Each CAA is inspected periodically depending on the hazardous waste generator status of that campus.

EH&S must be contacted immediately for any actions, activities, or incidents that impact a CAA.

The majority of regulated waste stored in the CAAs fall into the Hazardous Waste category but there are some occasions where other regulated waste might be stored there until removal can be scheduled with an appropriate transporter. For regulated waste to be stored in the CAA, EH&S must receive a SRC request for the removal of the regulated waste from its generation site or SAA. Once the SRC has been received, a member of the EH&S team will transport the regulated waste to the CAA for that campus.

E. Transportation and Disposal Procedures

It is prohibited to transport any regulated waste from one campus or center to another. All regulated waste must be stored and picked up for disposal from the facility where it was generated.

All intercampus transportation of regulated waste from a department SAAs to a facility's CAA will occur on private roads or sidewalks maintained by PCC. If a public road ever needs to be crossed, such as at Cascade, all crossings will occur at marked crosswalks and perpendicular to the road to limit the amount of time on the public roadway. When container size allows, secondary containment will be used to help contain the regulated waste in the event of a leak or spill.

The hazardous waste stored in the CAAs is shipped to a designated facility at the end of each term through an appropriate hazardous waste transporter. The hazardous waste transporter performs all duties for packaging hazardous waste for transportation including making determinations for DOT shipping classifications, packing the hazardous waste, and generating shipping manifests and packing slips. Because of this, DOT does not classify PCC and the EH&S hazardous waste manager as a Hazmat Employee and therefore does not require DOT training for compliance.

Biological waste disposal is managed by an appropriate biological waste disposal vendor and the pick-up schedule is based on campus/center and amount of biological waste generated during any given term. More information on the vendor and the pick-up schedule for a specific department can be obtained from EH&S. Similar to hazardous waste disposal, a shipping document specific to biological waste is generated that travels with the waste shipment. After each shipment, EH&S obtains these shipping documents from the disposal vendor.

V. TRAINING

PCC must ensure that all employees are thoroughly familiar with proper regulated waste handling and emergency procedures relevant to their responsibilities during normal work operations as well as emergencies.

EH&S has developed general training for all employees which covers the following:

- Types of regulated waste at PCC
- Storage requirements
- Submitting disposal requests
- Required Department procedures

Each department is required to provide on the job training with new staff which covers the regulated waste program with in-depth training on the specific waste streams generated by that department. This department specific training will cover the following:

- Different regulated waste streams that are generated by the department in the assigned work area.
- Proper storage, labeling, and the process to request disposal including SAA specifics.
- Details of waste determinations for each regulated waste stream generated by the department.
- Proper use of hazard controls, including PPE, needed for managing regulated waste.
- Emergency spill response and waste determination associated with that process.

Training will be given within six months of a new employee's hire as well as whenever a new regulated waste stream is introduced, or the process for storage or disposal is changed.

VI. RECORD KEEPING

There are several sets of records related to the Regulated Waste Program that are maintained by different groups at Portland Community College.

Waste determinations and any documents supporting the waste determinations will be maintained by the department and EH&S for at least three years from the date that the regulated waste was last disposed of.

Signed Waste Manifests and shipping documents will be maintained by EH&S for at least three years from the date the regulated waste was accepted by the initial waste transporter.

DEQ Annual Hazardous Waste Report will be maintained by EH&S for at least three years from the due date of the report.

Training records will be maintained by the supervisor/manager for the duration of the employee's tenure.

Satellite Accumulation Area records will be maintained by the employee assigned the management of the SAA. This will include the SAA inspection forms as well as SAA accumulation logs for any bulk regulated waste containers. All SAA records will be maintained for at least three years.