



State of Oregon
Department of
Environmental
Quality

Directive

Title: **Form C**

Household Hazardous Waste Collection
Facility Design and Operations Guidance

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Pages: 7

Approval Date: 1991, 2004

Scope:

This Directive sets out guidance for the design and construction of a Household Hazardous Waste (HHW) facility.

Purpose/Need:

The design, construction, and operation must incorporate measures to prevent degradation of groundwater, surface water, air quality, and endangerment of public or employee health. In order to insure that ongoing operation of the facility is consistent with these guidelines, each facility must develop an Operations Plan and an Emergency Response Plan which are incorporated into the solid waste permit for each facility.

Directive:

I. DESIGN

The design and construction of a Household Hazardous Waste (HHW) facility must incorporate measures to prevent degradation of groundwater, surface water, air quality, and endangerment of public or employee health.

A. SITING

Requirements:

- Consult and comply with local zoning requirements.
- Determine the proximity to flood plains and sensitive resources and protect/mitigate as needed.
- Consult and comply with the fire code and building code for separation between property line and buildings, separation between buildings and construction requirements for flammable and/or reactive materials.
- Construct facility on a stable foundation.
- Provide adequate ingress and egress to major streets and/or highways.

Information to be submitted in Design Plan:

- Description of applicable local zoning and setback requirements.
- Description of flood plains and sensitive resources within proximity of site.
- Description of mitigating measures necessary for preventing degradation of sensitive resources and protecting from floods.
- Description of fire code and building code requirements for building locations.
- Scale drawings of the facility that show the layout of the property and all the physical features of the facility and cross-section drawing of foundation soils.

B. SECURITY AND EMERGENCY EQUIPMENT STATIONS

Requirements:

- Surround the facility with security fencing with security locks on gates and doors. –
- Post warning signs with a legend, such as "Danger-Unauthorized Personnel Keep Out" at each entrance to the facility and at other locations in sufficient numbers to be seen from any approach to the facility.
- Establish fire suppression equipment stations in an accessible location.
- Install emergency shower, eye wash station(s), and telephone equipment.
- Establish storage area(s) for personal protection and spill response equipment in accessible locations.

Information to be submitted in Design Plan:

- Scale drawings that show fencing and signs, fire suppression equipment stations, storage areas for personal protection and spill response equipment, and shower and eye wash station(s).

C. STRUCTURAL REQUIREMENTS

Requirements:

- Comply with Uniform Building Code, Uniform Fire Code, Electrical Code, and other applicable codes.
- Facility floor construction must be liquid-tight, constructed of steel-reinforced concrete, and sloped for containment and drainage. Alternative floor construction that is liquid-tight and provides equivalent protection is acceptable.
- Drains within the facility must have a slope of at least 1%. Drains must be constructed of materials that are compatible with the stored wastes. Drains must be designed to keep incompatible materials separated.
- Secondary containment must be built into the facility to contain accidental spills of hazardous materials. Secondary containment must have the capacity for containing 10% of the total waste storage capacity. If a sprinkler system is installed at the facility, secondary containment must have the capacity to contain the sprinkler system flow rate for 20 minutes. If rainwater can enter the area, the secondary containment must have the capacity to contain a 24-hour, 25-year storm.
- All waste storage areas must have a roof with sufficient overhang to prevent precipitation from contacting waste.
- Ventilation, via natural or mechanical means, must be built into the facility. If natural ventilation is provided by exterior openings, there must be openings equivalent to 1/20 of the total floor area.
- Lighting, via natural or artificial means, must be provided in work areas.
- Incompatible waste must be separated or protected from other materials by means of a dike, berm, wall or other device, in compliance with Fire Codes and 40 CFR Ch. 1,264.177.
- Waste unloading and shipping areas must be constructed of structurally reinforced concrete, with sealed joints. Alternative construction that provides equivalent protection is acceptable.
- Waste unloading and shipping areas must have a slope of at least 1% to a locking drain or sump for containment of spills.
- Surface water run-on and runoff must be minimized in unloading and shipping areas to prevent contamination of surface and groundwater.
- Waste water must not be discharged to public waters except in accordance with a permit from the Department issued under ORS 468B.050.

Information to be submitted in Design Plan:

- Description and scale drawings of facility design features that address the above requirements.

II. OPERATIONS PLAN AND WASTE HANDLING

A HHW facility must have a solid waste permit with a DEQ approved operations plan prior to accepting any waste. The operations plan must contain the information described below.

A. WASTE ACCEPTANCE

Requirements:

- Establish protocol to reject and redirect regulated hazardous waste and any excluded waste. Accept only household hazardous waste. CEG and Universal waste may also be accepted with DEQ approval. Asbestos may only be accepted with DEQ approval.
- Accept waste only if there are disposal arrangements for that specific material and the material can be stored safely pending disposal.
- Prevent wastes that are delivered in leaking or corroded containers from further leaking. Repack such containers in leak-proof containers.
- Prevent mixing of incompatible wastes. Prevent hazardous waste from being placed in an unwashed container that previously held an incompatible waste or material.
- Establish hours of operation must be established to control the flow of people and materials at the facility.

Information to be submitted in Operations Plan:

- Types and anticipated quantities of waste to be accepted during an average month.
- Methods for identifying unknown wastes, including types of chemical analyses to be performed and procedures for handling unknown wastes.
- Methods for recording receipt of waste.
- Methods for ensuring incompatible wastes are kept separated.
- Procedures for responding to deliveries of suspected or actual regulated hazardous waste.
- Procedures for handling wastes that are received in corroded or leaking containers.
- Procedures for handling wastes, which pose special hazards, such as explosives, pressure or heat sensitive wastes, home chemistry lab wastes, etc.
- Hours of operation.
- Procedures for acceptance of CEG, Universal waste, or asbestos, if applicable.

B. WASTE SORTING AND STORAGE

Requirements:

- Handle and store each waste in a manner appropriate to its characteristics and hazards.
- Sort each waste into its appropriate Department of Transportation (DOT) hazard class immediately after the waste is unloaded.
- Adequately delineate and mark the storage areas.
- Establish limits for the maximum quantity of drums and other waste containers to be stored in each area.
- Establish criteria for products to be included in a materials exchange program such as label and container integrity and no banned products.
- Close all containers holding hazardous waste during storage except when it is necessary to add or remove waste.
- Maintain minimum of 24 inches between rows of drums for aisle spaces in all storage areas.
- Establish a dedicated storage area for each hazard class.
- Drums or other sealed storage containers may be stacked no more than 2 high. Only compatible waste may be stacked.
- Waste may be stored no longer than 180 days or, for materials being accumulated for a feasible means of being recycled, no greater than 1 year.
- Protect storage containers from weather and temperature extremes.

Information to be submitted in Operations Plan:

- Description of waste sorting protocol.

- Location where each hazard class of waste will be stored.
- Drawing of drum storage pattern that will be used.
- Maximum quantity of drums and other waste containers to be stored in each waste storage location.
- Maximum length of time that filled drums will be stored before being shipped for recycling, treatment or disposal.
- Materials exchange criteria and location of materials exchange storage area, if applicable.

C. WASTE PACKING

Requirements:

- Use containers that are made of, or lined with, materials which will not react with the waste to be stored.
- Package incompatible wastes separately.
- Label containers with the appropriate hazard classification stickers. Label containers as "Hazardous Waste" or "Household Hazardous Waste" and record the dates when waste accumulation begins and ends.
- Maintain individual waste inventory sheets for each lab pack drum in the operating records. Include the chemical constituents on the log sheets. The inventory sheets will be used in completing the shipping manifest.

Information to be submitted in Operations Plan:

- Description of containers and liners.
- Procedures lab packing, loose packing and liquid bulk packing. Indicate how each acceptable waste will be packaged.
- Methods for moving full containers.
- Procedures for inventory tracking.

D. WASTE MANAGEMENT AND SHIPPING

Requirements:

- Package, label, and manifest all wastes according to DOT requirements.
- Obtain a State/EPA identification number to be used in filling out the shipping manifest. To obtain an application for an identification number, contact the Department of Environmental Quality (DEQ) at (503) 229-6511.
- Send all household hazardous wastes that cannot be reused or recycled to a permitted hazardous waste treatment, storage, or disposal facility (including contaminated latex paint). Any other waste disposal practices must be identified in the operating permit or reviewed and approved by DEQ before they are implemented.
- Transport wastes from the facility according to DOT standards.
- Manage solid wastes which are not household hazardous wastes or CEG wastes according to applicable local, State and Federal solid waste laws.
- Maintain shipping manifests in the operating records, with individual waste inventory sheets for each drum, for at least 3 years.

Information to be submitted in Operations Plan:

- Procedures for manifesting and shipping wastes.
- State/EPA identification number.
- Anticipated recyclers and treatment, storage, and disposal facilities to be used.
- A plan to manage all waste streams collected.

E. INSPECTIONS

Requirements:

- Inspect the facility at least once a week for inadequacies and deterioration, and for practices which may be causing (or may lead to) release of waste constituents to the environment or a threat to human health.
- Develop a written inspection schedule for monitoring equipment, safety and emergency

equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to prevent, detect, or respond to, environmental or human health hazards. Include the condition of storage containers and the condition of the containment system in each inspection.

- Repair any deterioration or malfunction of equipment or structures which inspection reveals.
- Record inspections in an inspection log. Include in the log the date and time of the inspection, the name of the inspector, and a notation of the observations made, and the date and nature of any repairs or other remedial actions taken.
- Record any facility or equipment maintenance or follow-up actions taken pursuant to inspections.
- Perform an inspection of the entire secondary containment system, at least once per year.

Information to be submitted in Operations Plan:

- Inspection log forms.
- Written inspection schedule that includes locations where inspector will check for leaks or deterioration.
- Criteria for identifying deterioration.
- Follow-up action initiated in the event an inspection reveals leakage, deterioration, or other damage to containers, equipment, or facility.

F. WORKER SAFETY

Requirements:

- Establish safety procedures for entering and leaving the waste handling areas.
- Establish the level of safety protection needed to perform different activities at the facility.
- Provide safety equipment and accessible storage areas for safety equipment.
- Comply with OSHA (Oregon and Federal) requirements for training, medical monitoring, equipment use, etc (see section V).

Information to be submitted in Operations Plan:

- Description of personal protective clothing and equipment that will be used for each activity.
- Description of how owner/operator will comply with OSHA requirements.
- Description of safety procedures for entering and leaving waste handling areas.
- Decontamination procedures for leaving waste handling areas.
- List of personal protective and safety equipment and clothing that will be used.

G. PERSONNEL TRAINING

Requirements:

- Prior to beginning work, all personnel must receive training to reduce the potential for accidents and protect worker health.
- Train workers about all emergency procedures.
- Prior to beginning work, train workers to understand the mechanics of performing all facility operations why each operation must be performed as indicated in the operations plan.
- Train workers in implementing the inspections, spill response and contingency plans.
- Include in the training program the various types of hazardous wastes and household hazardous wastes and their characteristics, handling precautions, and worker safety.
- Send all employees who will handle wastes must attend a 24-hour hazardous waste personnel protection and safety training course or an equivalent 24-hour hazardous waste training program, in accordance with OSHA requirements. Send these workers to an 8-hour health and safety refresher course once a year.
- Maintain training plans and records for each employee in the operating records.
- Document in the operating records that the required training has been completed by facility personnel.

Information to be submitted in Operations Plan:

- Training plan.
- Written description of training for each position, including the requisite skill, education, or

- other qualifications of employees assigned to each position, and duties of each position.
- Written training plan for each job description, which includes the type and amount of both introductory and continuing training for each position, including facility-wide emergency/evacuation drills.

H. FACILITY CLOSURE

Requirements:

- Prepare a closure plan that identifies the steps necessary to close the facility at the end of its intended operating life and describe how the closure will be funded.
- A description of how and when the facility will be partially closed, if applicable, and closed.
- A description of how all waste stored will be removed from the facility.
- A description of the steps needed to decontaminate facility equipment during closure.
- An estimate of the expected year of closure.
- Notify DEQ 180 days prior to closure.

Information to be submitted in Operations Plan:

- Closure plan.

III. EMERGENCY RESPONSE PLAN

The HHW facility must have a solid waste permit with a DEQ approved emergency response plan prior to accepting any waste. The plan must contain the information described below.

A. SPILL PREVENTION AND EMERGENCY RESPONSE

Requirements:

- Adopt a written spill prevention and control plan to minimize the risk of environmental contamination from accidental releases.
- Maintain copies of the preparedness and emergency response plan at the facility.
- Familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of the waste handled at the facility and evacuation routes.
- Plan to be submitted and agreement maintained with all local police and fire departments, hospitals, state and local emergency response teams, which may be called upon to provide emergency services and the appropriate DEQ regional office.

Information to be submitted in the Emergency Response Plan:

- Procedures to minimize the occurrence of spills when handling.
- Description of secondary containment in storage and shipping areas.
- Description of engineered barriers that separate the facility from the surrounding environment.
- List of emergency equipment at the facility, the equipment locations, and a brief description of equipment capabilities.
- The names and telephone numbers of all persons qualified to act as emergency coordinators, and of individuals to be contacted 24 hours a day in the event of an emergency.
- List of emergency cleanup contractors available on a 24-hour standby basis to be used in the event of an emergency.
- Evacuation procedures and routes for the public and employees in the event of an emergency.
- Procedures for removing spilled or leaked waste and accumulated precipitation from the sump or collection area in as timely a manner as possible, and decontamination procedures.
- Description of appropriate emergency equipment and locations.
- System to keep records of any spills or incidents requiring implementation of spill prevention or emergency response plan, along with follow-up actions.

B. EQUIPMENT

Requirements:

Facilities must be equipped with the following equipment:

- An alarm, air horn, or other signal system that will alert personnel to a spill.
- A device, such as a telephone or hand-held two-way radio, capable of summoning emergency assistance.
- Portable fire extinguishers; fire control equipment, including special extinguishing equipment such as that using foam, inert gas, or dry chemicals that are compatible with the categories of hazardous substances stored at the facility; spill control equipment; and, decontamination equipment.
- Water at adequate volume and pressure to supply safety showers, eye wash stations, water hoses, foam producing equipment, automatic sprinklers, or water spray systems. Water systems must be freeze protected.
- Eye wash, emergency shower, first aid or other safety equipment necessary to prevent or provide initial treatment of injury to personnel who handle wastes.

Information to be submitted in Emergency Response Plan:

- A list of all safety and emergency equipment on-site, with a description of the capability of each device.
- Schedule describing equipment testing and maintenance procedures.
- System to document regular inspections, testing and maintenance of the facility's communication and/or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment in the operating records.

Contact Person:

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