

**WAC 173-306-440 Ash monofill facility standards.** (1) Applicability. This section applies to owners and operators of facilities that monofill special incinerator ash, except as WAC 173-306-400 provides otherwise.

(2) Minimum standards for performance.

(a) Groundwater. Monofill owners or operators may not contaminate underlying groundwater beyond the point of compliance. Contamination and point of compliance are defined in WAC 173-306-100.

(b) Soil. Soils at the property boundary may not exceed the following limits for cadmium due to the facility operations based upon annual samples:

(i) The annual increase in cadmium loading in the upper six inches of soil with a pH equal to or greater than 6.5 may not exceed 0.5 kilograms per hectare annually or a total accumulation of 20 kilograms per hectare; and

(ii) The annual increase in cadmium loading in the upper six inches of soil with a pH less than 6.5 may not exceed a total accumulation of 5.0 kilograms per hectare.

(c) Air quality. Monofill owners or operators may not cause a violation of an emission standard from any emission of particulates, dusts or gases associated with the operation and/or closure/post-closure of the landfill nor any ambient air quality standard at the property boundary including the following ambient lead standard:

The level of lead and its compounds measured as elemental lead in suspended particulate matter measured during a twenty-four hour sample taken at the downwind facility boundary may not exceed 1.5 micrograms per cubic meter of air due to the facility's operation or the latest national ambient air quality standards. The sampling frequency will be monthly unless otherwise approved by the department.

(d) Surface waters. Monofill owners or operators may not cause a violation of any receiving water quality standard or violate chapter 90.48 RCW from discharges of surface runoff, leachate, or any other liquid associated with a monofill.

(3) Siting standards. Monofill owners or operators receiving special incinerator ash shall comply with incinerator ash siting standards of WAC 173-306-350(2).

(4) Minimum design standards.

(a) Minimizing liquids. Monofill owners or operators shall minimize liquids admitted to active areas by:

(i) Covering according to subsection (5)(e) of this section.

(ii) Disposing of no ash containing free liquids unless approved by the department;

(iii) Designing, constructing, and maintaining runoff controls to restrict the chance of a runoff event from releasing contaminated runoff waters to an annual probability of one percent or less (one hundred-year event or greater). In meeting this requirement the following items are to be considered:

(A) The design of the containment structures should be selected based on the ability of the facility to store, test, and/or treat the runoff during a twenty-four hour or longer storm event.

(B) The design assumes that the storm event occurs during the final year of the active life of the monofill or at a time when the facility is most vulnerable to a storm that could produce the release of contaminated waters. The method of placement of the ash should be considered when determining the volume available for storage of runoff.

(C) A minimum of one foot of freeboard (measured from the invert of the emergency spillway) should be maintained following the occurrence of the design storm.

(D) An emergency spillway is to be constructed for the containment structure to provide controlled release of excess runoff waters in the case where the design storm is exceeded.

(iv) Design, construct, and maintain diversion channels, channel containment berms, culverts, pipes, and other drainage control features to pass and/or store run-on to restrict the chance of failure of the drainage control features to an annual probability of one percent or less (one hundred-year event or greater). In meeting this requirement the following items are to be considered:

(A) For those cases where the run-on waters are to be stored and/or treated, selection of the storm design should be based on the appropriate procedures governing runoff controls.

(B) For those cases where the run-on waters are to be diverted around the facility, the drainage control features should be sized to pass the run-on peak discharge (design flood) of a magnitude that has an annual exceedance probability of one percent or less (one hundred-year flood peak discharge or greater).

(C) Sufficient erosion protection and freeboard (one foot minimum) are to be provided for all drainage control features to preclude failure of those features during passage of the design flood.

(v) Submit engineering plans and specifications for any containment barrier equalling or exceeding as storage capacity of ten acre-feet to the department's dam safety section for review under RCW 90.03.350.

(b) Leachate systems. Monofill owners or operators shall:

(i) Install a department-approved leachate collection system sized according to water balance calculations or using other accepted engineering methods;

(ii) Install a leachate collection system to prevent no more than one foot of leachate developing at the topographical low point of the active area; and

(iii) Install a leachate treatment system to meet requirements of WAC 173-306-200 (3)(c)(ii)(B) through (E).

(c) Liner and final cap design. Ash monofill owners or operators shall comply with the requirements of WAC 173-306-450.

(d) Liner construction and inspection. Ash monofill owners or operators shall:

(i) Comply with the requirements of WAC 173-306-450.

(ii) Employ an independent third party as defined in WAC 173-306-100 to inspect the liners during construction and installation for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, foreign materials) and quality of construction; and immediately after construction and installations to inspect:

(A) Synthetic liners and covers for tight seams and joints and the absence of tears, punctures or blisters; and

(B) Soil-based and admixed liners and covers for imperfections (e.g., lenses, cracks, channels, root holes) or structural nonuniformities that may affect liner permeability.

(e) Filling requirements for ash cells. Monofill owners or operators shall design and fill ash monofills in phases or cells, as defined in WAC 173-306-100. Only one cell may be open and in use at one time; each cell must be graded and covered with a flexible high density polyethylene liner or other material of equivalent mechanical strength and chemical resistance during the interim period before

reaching final elevation. The liner must be 60 mils and have the ability to withstand weather conditions. The owner or operator shall provide, as part of the interim cover, a method of detecting and/or monitoring/inspecting the integrity and any possible failure of the interim cover.

(f) Fugitive dust controls. Monofill owners and operators shall:

(i) Employ tire washing for all ash-carrying vehicles as they leave the site or any equivalent method to prevent the trackout of ash onto the site and the public right of way. Contaminated wash-waters must be disposed of according to WAC 173-306-200 (3) (c);

(ii) Orient the major axis of the active area of the monofill with respect to the prevailing wind directions so as to minimize the effect of wind upon dispersion of special incinerator ash unless engineering designs can provide equivalent protection; and

(iii) Provide for paved approach and exit roads outside the active area with traffic separation and traffic control on-site and at the site entrance.

(g) Other design requirements. Monofill owners and operators shall:

(i) Post signs at each entrance to the active portion and at other locations, in sufficient numbers to be seen from any approach to the active portion. Signs must bear the legend "Danger - unauthorized personnel keep out" or an equivalent legend, and must be legible from a distance of twenty-five feet;

(ii) Have either:

(A) A twenty-four-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or

(B) An artificial or natural barrier; or

(C) A combination of both, which completely surrounds the active portion of the facility, with a means to control access through gates or other entrances to the active portion of the facility at all times.

(iii) Provide for monitoring according to WAC 173-306-500 using a design approved by the department;

(iv) Weigh all incoming ash on scales or provide an equivalent method of measuring ash tonnage;

(v) Provide for employee facilities including shelter, toilets, handwashing facilities, and potable drinking water;

(vi) Provide for unloading areas to be as small as possible, consistent with traffic patterns and safe operation; and

(vii) Provide communication (such as telephones) between employees working at the monofill and on-site or offsite management offices to handle emergencies.

(5) Standards for operation and maintenance. All owners and operators shall:

(a) Prohibit the co-disposal of any other solid or hazardous waste in a special incinerator ash landfill;

(b) Comply with the requirements of the general operation standards, WAC 173-306-405;

(c) Control fugitive dust by wetting, by the use of dust suppressing substances, covering, compacting, or otherwise managing the active area of the monofill to control wind dispersal and prevent visible emissions of windblown dust. Road dust on unpaved roads must also be similarly controlled.

(d) Clearly mark the active area boundaries authorized in the permit, with permanent posts or using an equivalent method clearly visible for inspection purposes.

(e) Compact and cover ash daily before adding successive layers according to the requirements of WAC 173-306-450.

(f) Maintain the monitoring systems required in subsection (4)(g)(iii) of this section;

(g) Inspect the monofill weekly while it is in operation and after major storms to detect evidence of any of the following:

(i) Deterioration, malfunctions, or improper operation of run-on and runoff control systems and interim cover;

(ii) The presence of liquids in leak detection systems, where installed, to comply with subsection (4)(b) of this section. The department must be notified of any leaks into the leak detection system within seven days after detecting the leak and immediately remove any accumulated liquid. Notification shall include a schedule for determining the cause of the leak and any remedial measures or increased groundwater monitoring to assure that the performance standards of subsection (2)(a) of this section are met;

(iii) The presence of leachate in, and proper functioning of, leachate collection and removal systems; and

(iv) Proper functioning of engineered wind dispersal control systems.

(h) Record the inspections in the log as required in WAC 173-306-405(6).

(6) Closure and post-closure requirements.

(a) At final closure of the monofill or upon closure of any cell, the owner or operator shall cover the monofill or cell with a final cover designed and constructed according to subsection (4)(d) of this section and shall comply with all closure requirements of WAC 173-306-410;

(b) After final closure, the owner or operator must comply with all post-closure requirements of WAC 173-306-410, and must:

(i) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(ii) Prevent run-on and runoff from eroding or otherwise damaging the final cover;

(iii) Maintain and monitor the leak detection system in accordance with subsection (4)(b) of this section, where such a system is present; the owner or operator shall immediately remove any accumulated liquid and notify the department of any leaks into the leak detection system within seven days after detecting the leak. Notification shall include a schedule for determining the cause of the leak and any remedial measures or increased groundwater monitoring to assure that the performance standards of subsection (2)(a) of this section are met;

(iv) Operate the leachate collection and removal system; and

(v) Maintain and operate the monitoring systems of WAC 173-306-500.

[Statutory Authority: Chapter 70.138 RCW. WSR 00-19-018 (Order 00-17), § 173-306-440, filed 9/8/00, effective 10/9/00; WSR 90-10-047, § 173-306-440, filed 4/30/90, effective 5/31/90.]