

Criteria for Municipal Solid Waste Landfills, Chapter 173-351 WAC

The Department of Ecology adopted amendments to Criteria for Municipal Solid Waste Landfills, Chapter 173-351 WAC. The amended rule was adopted on November 8, 2012.

What is Chapter 173-351 WAC?

The rule sets standards for the design, operation, closure, and post-closure care of landfills that accept municipal solid waste. Among other items, it addresses landfill and final cover system design, leachate collection, gas control systems, operational controls, environmental monitoring, and financial assurance.

The rule does not apply to non municipal solid waste, inert waste, special incinerator ash, or dangerous waste landfills regulated under Chapters 173-350, 173-306, or 173-303 WAC or landfills closed under Chapter 173-304 WAC.

Summary of the rule changes

Landfill location restrictions:

- Owners/operators proposing new landfills within a six mile radius of an airport must notify the effected airport and the Federal Aviation Administration.
- Landfills may not be located within a river channel migration zone.

Landfill operating standards:

- Owners/operators of landfills with a composite liner and leachate collection system may introduce leachate and gas condensate generated by the landfill back into the landfill at any time, not just in emergency situations.

Landfill design:

- There are no longer equivalent and arid liner designs, allowing greater flexibility for alternate liner designs and consistency with federal regulations. Owners/operators of landfills with units planned for future construction permitted under the equivalent or arid design criteria may need to submit information to show a landfill expansion meets alternative design standards. New standards include a design that will meet groundwater quality criteria in Chapter 173-200 WAC and revised concentrations in Table 1 of section 173-351-300. Landfills must also control methane under the revised rule.

Groundwater monitoring:

- Owners/operators must test for total metals in groundwater to meet federal standards and state groundwater quality criteria. Owners/operators will need to test for both dissolved and total metals for eight sampling events to establish new background levels for total metals. After that, owners/operators will need to test only for total metals (except iron and manganese, which remain dissolved). This change may result in an increase in concentrations for some metals and may be complicated by difficulties in obtaining clean samples and intrawell monitoring. The rule allows

Summary of the rule changes continued...

owners/operators until May 31, 2013 to work through issues specific to their landfill and submit revised sampling and analysis plans.

- Owners/operators or their consultants must input groundwater monitoring data into Ecology's Environmental Information Management Database (EIM) within 60 days of receiving analytical data. Many labs can supply data in an EIM-ready format. Paper copies of groundwater monitoring data are no longer required.
- Owners/operators must determine elevations of the top of the groundwater monitoring well casings related to a vertical benchmark based on the North American vertical datum of 1988 (NAVD88), instead of the national geodetic vertical datum of 1929 (NGVD 29). There are on-line tools to convert existing datum.
- The rule eliminates listed test methods and practical quantitation limits from Appendix III because they change over time.

Landfill closure and post-closure care:

- There is no longer the requirement that alternative final cover systems (caps) have permeabilities equal to the standard "composite layer", allowing greater flexibility in cap designs. The revised rule allows use of an alternative cap design that has a permeability equal to or less than that of a bottom liner system and natural subsoil, an anti-infiltration layer that achieves the same infiltration as two feet of low permeability soil and one foot of an anti-erosion vegetative soil layer.
- Owners/operators must file an environmental covenant at closure. The covenant needs to prohibit uses of the property that may threaten the integrity of engineered controls and monitoring systems or interfere with operation and maintenance at the landfill. The owner/operator should consider impacts to the post-closure care period when deciding what restrictions to place on a property (see next bullet).
- The post-closure care period must be based on risk to human and environmental receptors, instead of an arbitrary 30-year period. New standards require owners/operators to determine the time needed for a landfill to become functionally stable. A landfill is functionally stable when it does not present a threat to human health or the environment at the point of exposure. Threats are based on leachate quality and quantity, landfill gas production, cover system integrity and groundwater quality. Environmental covenants may affect the post-closure care period because limits on property use and public access controls may determine the point of exposure. An owner/operator should take into account both potential threats and environmental covenant restrictions when determining the length of post-closure care periods. Owners/operators will need to update financial assurance estimates for post-closure based on the new criteria.

Financial assurance:

- Owners/operators must revise closure, post-closure, and remedial action cost estimates to include prevailing wage requirements when hiring a third-party to perform the work. Municipally-owned landfill owners/operators should have already accounted for prevailing wage in their financial assurance estimates. Privately-owned landfill owners/operators will need to adjust estimates to

Summary of the rule changes continued...

account for paying prevailing wages to complete closure and post-closure care. This change was based on the requirement for jurisdictional health departments to pay prevailing wages when accessing funds to perform work an owner/operator fails to complete.

- Owners/operators must submit financial assurance audit findings for reserve accounts and trust funds to jurisdictional health departments and Ecology with annual reports.
- Municipal and privately-owned landfill owners/operators may use additional financial assurance mechanisms than under the old rule. Owners/operators of municipal landfills may use reserve accounts, cash and investments in a trust fund, surety bonds, and letters of credit. Owners/operators of privately-owned landfills may use cash or investments in a trust fund, surety bonds, or letters of credit.

Permitting standards:

- The rule includes new federal regulations to allow issuance of Research, Development and Demonstration (RD&D) permits. This permit allows the addition of liquids to a landfill and final cover designs that differ from normal rule requirements. To be eligible for RD&D permits, landfills must not be identified as a potential source of contamination and must have a leachate collection system that will maintain less than a one foot depth of leachate on the liner.
- The rule no longer limits the duration of permits to 10 years. The old rule required owners/operators to go through a permit reissuance process every 10 years. Jurisdictional health departments may alter permits issued to landfills if they currently specify a 10-year limit.
- Owners/operator may make changes through a permit modification process, not just during the permitting process. Owners/operators must submit a permit modification for any change related to a requirement of the rule, not just for substantial changes. The rule keeps the process simple with expedited procedures and by allowing requests in a variety of formats
- Permits must specify the extent of each landfill unit, specific time frames for construction of the first unit and estimated time frames for construction of subsequent units, not just the design volume capacity.

Important Dates

- November 8, 2012 - This is the date the rule was adopted.
- December 9, 2012 - This is the date the rule becomes effective.
- May 31, 2013 - Owners/operators must submit revised groundwater sampling and analysis plans (SAP) following the permit modification process to address sampling and testing for total metals. At the first sampling event after a jurisdictional health department approves the SAP, owners/operators must sample in accordance with the revised SAP.
- November 1, 2013 - Owners/operators must submit revised post-closure plans following the permit modification process to address functional stability criteria, environmental covenants, and account for prevailing wages related to post-closure care. Owners/operators will need to update funding mechanisms to account for revised post-closure care costs after a jurisdictional health department approves the revised plan.

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