



Ten Year Design Demonstration

Applicable Statute and Rules

MSW: OAC 3745-27-19(N)
ORC 3734.05(A)(5)
ISW: OAC 3745-29-19(N)
ORC 3734.05(A)(5)
RSW: OAC 3745-30-14(N)
ORC 3734.05(A)(5)
Tires: OAC 3745-27-75(N)
ORC 3734.05(A)(5)

Purpose

This document is an internal operating procedure to clarify demonstration requirements, outline the criteria for acceptance or rejection of a demonstration, and outline procedures for processing a demonstration.

Detailed Discussion

A ten year design demonstration (also known as a 10 year update) is a component of the MSW, ISW, RSW, and ST landfill programs. The demonstration is the means by which facilities update their designs to the latest standards. The rules require that:

Upon every tenth anniversary of the effective date of the initial permit to install issued to the owner or operator of the sanitary landfill facility pursuant to Chapter 3734 of the Revised Code and each tenth anniversary thereafter, the owner or operator shall submit to Ohio EPA an analysis demonstrating that the design of the unconstructed portion of the sanitary landfill continues to be consistent with the design standards established in the current version of the design rule.

If the director determines that the design is no longer consistent with the standards established in the design rule, then the director may require the owner or operator to make necessary changes to the sanitary landfill facility to bring the facility into compliance with the design standards in the current version of the design rule. Since these changes will represent deviations from what is contained in the current authorizing document(s), the owner or operator shall obtain the appropriate authorization from Ohio EPA prior to making the changes. If a permit to install application is required, the director shall not apply the siting criteria when considering the permit to install application as long as there is no capacity increase or change to the vertical or horizontal limits of waste placement.

ITEMS SUBJECT TO THE 10-YEAR UPDATE

The rule requires that the design be analyzed to ensure that the authorized design meets current design standards. The design to be analyzed is contained in the facility's solid waste permit(s) and other authorizing documents (alterations, variances and exemptions etc.). For MSW landfills, this includes alterations in the operating record that were self-implemented and not necessarily formally approved. A pending permit application is not to be considered in the analysis. The 10-year update does not address such items as ground water or explosive gas monitoring, financial assurance, or siting. For MSW landfills, the update also does not include the location restriction demonstrations. These items are not found in the design rule cited in the 10-year update rule. However, if it is necessary to make design changes, financial assurance and the QA/QC plan could also be affected.

¹ Note: This document was originally published on the date noted above. DMWM re-issued the document to make it consistent with current formatting and publication standards after evaluating the content and determining it is still relevant and appropriate. No substantive changes were made to the document.

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Although the rules refer to 'unconstructed portions' of the facility, there is no description of what is meant by 'portion.' It is DMWM's interpretation that the engineering components listed in the design rule constitute a 'portion.' Therefore, as of the anniversary date, all unconstructed components (portions) are to undergo the comparison of their authorized design to the current design standards.

The August 15, 2003 rule revisions changed many aspects of landfill design. Of particular interest are new factors of safety for slopes (MSW, ISW, and RSW), an increased permeability for granular leachate collection layers (MSW and ISW), a minimum grade for leachate collection pipes to be maintained after settlement (MSW and ISW), and cap systems requiring an FML component (MSW, ISW and ST). The general design criteria for slope stability apply to the waste mass throughout the applicable development and post closure periods. Even facilities that have no remaining unconstructed areas for bottom liner are required to demonstrate an acceptable design for stability of the waste mass and final cap yet to be constructed.

CURRENT DESIGN STANDARDS

Ohio EPA is required by statute to review the rules every five years. Thus the rules and standards may be amended periodically in response to evolving technology or statutory changes, and to address other issues. The "current design standards" are those established by the rules at the time the demonstration is due, and not at the time the demonstration is submitted or reviewed.

INITIAL PERMIT THAT ESTABLISHES THE ANNIVERSARY DATE

The rule states that the demonstration is due upon every tenth anniversary of the effective date of the "initial permit to install issued to the owner or operator of the sanitary landfill facility pursuant to Chapter 3734 of the Revised Code." This language is different from that used in the 1994 rules which used the permit that approved initial construction of the facility as the basis for establishing the anniversary date. Thus, there may be some facilities which should be using an earlier permit to install that was issued for some other purpose than to initiate construction as the basis for establishing the anniversary date.

An initial authorization through a document other than a permit to install (e.g., operating plan, license, Ohio Department of Health approval, NPDES permit) is not the basis for establishing the anniversary date. Even if another permit is issued to modify the facility, the initial permit date, and thus the anniversary date, is not changed.

SUBMITTING THE DEMONSTRATION

There is no defined format for the demonstration. In some cases where a permit was recently issued, a letter stating that issuance of the permit recently updated the design may be sufficient. In other cases, an item by item comparison may be necessary. If the demonstration shows that the design does not continue to meet current standards, the owner or operator should refer to any pertinent variances or exemptions, or if none exist, the owner or operator may opt to submit a permit application or alteration request with the demonstration. It is not a requirement to submit an entire permit application.

The demonstration is submitted to the appropriate district office for review. The owner or operator may submit the demonstration before the anniversary date, however, if the rules are revised prior to the anniversary date, then the analysis may not be valid on the anniversary date.

PROCESSING THE DEMONSTRATION

Upon completing review of a demonstration, Ohio EPA will respond with either an order or a letter.

If the demonstration is **incomplete**, the district office will send a letter notifying the owner or operator of the deficiencies. If the deficiencies are not corrected in a timely manner, a notice of violation may be sent.

If the determination is that the design **meets** current standards, the district office will send a letter notifying the owner or operator of that determination.

If the determination is that the design **does not meet** current design standards, the district office will send a letter noting that unconstructed components are not consistent with the design standards. This can be through concurrence with the conclusions of the demonstration or by listing each component which does not meet current design standards. The owner or operator may respond by submitting a permit application or alteration request, or wait until the director orders

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necessary changes be made. The district office will forward a recommendation to the director on whether or not to require necessary changes.

If the owner or operator submitted a permit application or alteration request with the demonstration, the district office will proceed with review of the application or request. However, if the owner or operator attempts to extend the process by submitting deficient proposals, then the director may issue an order pursuant to ORC Section 3734.05(A)(5) to submit updated engineering detail plans.

If the determination was that the design did not meet current design standards, and the director decides changes are not necessary, a director's letter will be sent. If the director decides it is necessary to require changes to bring the facility into compliance with current design standards, then director's final findings and orders are to be issued.

Ohio Revised Code Section 3734.05(A)(5) gives the director authority to order an owner or operator to submit updated engineering detail plans, specifications, and information regarding the facility, if conditions at the facility constitute a substantial threat to public health or safety or could contribute to air or water or soil contamination. The owner or operator has 180 days from the effective date of the order to submit those plans. If an owner or operator attempts to extend the process by submitting deficient proposals, then failure to obtain the required permit or alteration could result in enforcement actions.

If an order is issued requiring a permit or updated engineering detail plans, specifications, and information, and the director subsequently denies the permit or disapproves the alteration, then pursuant to ORC section 3734.05(A)(6), the owner or operator has six months to obtain approval of a final closure/post-closure care plan (most facilities already have an approved plan), and one year to commence final closure of the facility after issuance of the order.

If a permit is required for necessary modifications, those modifications fall under the category of "other modifications" as long as there is no expansion of the horizontal or vertical limits of solid waste placement. The owner or operator can request an expansion; however, the appropriate siting criteria will then be applied during permit review.

Contact

If you have questions regarding this document or would like additional information, please contact:

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