

Legislative Analysis



LANDFILL RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROJECTS

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House Bill 5148 as enrolled
Public Act 236 of 2005
Sponsor: Rep. Phil Pavlov

House Bill 5149 as enrolled
Public Act 199 of 2005
Sponsor: Rep. Daniel Acciavatti

Senate Bill 747 as enrolled
Public Act 243 of 2005
Sponsor: Sen. Jud Gilbert, II

House Committee: Natural Resources, Great Lakes, Land Use, and Environment
Senate Committee: Natural Resources and Environmental Affairs
Second Analysis (1-9-06)

BRIEF SUMMARY: House Bill 5148 would amend Part 115 of the Natural Resources and Environmental Protection Act to allow for the establishment of landfill research, development, and demonstration projects (RDDPs). House Bill 5149 would amend Part 117 of NREPA to include in the definition of "receiving facility," a structure that is designed to receive septage waste at an RDDP. Senate Bill 747 would amend Part 115 of NREPA to prohibit the disposal of certain types of liquid waste into a landfill but allow other types of waste, including septage waste added to an RDDP.

FISCAL IMPACT: None of the bills would have a significant fiscal impact on the state or local governmental units.

THE APPARENT PROBLEM:

Last year, the U.S. Environmental Protection Agency issued final regulations (40 CFR 258.4) permitting states to issue research, development, and demonstration (RD&D) permits for municipal solid waste landfills. The regulations permit states to allow variances from certain requirements related to the operation of municipal solid waste landfills (including restrictions on the types of liquids that may be placed in a landfill) for landfills utilizing new or innovative methods in the disposal of solid waste. One type of allowable project is the construction of a bioreactor landfill, which is a type of landfill where air or liquid (such as septage waste) is injected into the waste mass to accelerate or enhance degradation and biostabilization. Currently, there is an effort underway to construct a bioreactor landfill at the Smiths Creek landfill in St. Clair County. Local officials have noted that population increases (and corresponding development) expected in the coming years will result in generation of more solid and septage waste in the area. This has the potential to strain the capacity of area landfills, and it raises environmental,

public health, and quality of life concerns, as the proper disposal of solid and septage waste becomes increasingly difficult. Bioreactor landfills have the potential to address these twin issues of waste management and it has been suggested that the state issue research, development, and demonstration permits following federal regulations.

THE CONTENT OF THE BILLS:

House Bill 5148 would amend Part 115 of the Natural Resources and Environmental Protection Act to allow for the establishment of landfill research, development, and demonstration projects (RDDPs). House Bill 5149 would amend Part 117 of NREPA to include in the definition of "receiving facility," a structure that is designed to receive septage waste at an RDDP. Senate Bill 747 would amend Part 115 of NREPA to prohibit the disposal of certain types of liquid waste into a landfill but allow other types of waste, including septage waste added to an RDDP.

House Bill 5148

The bill would amend Part 115 (Solid Waste Management) to allow for the establishment of landfill research, development, and demonstration projects (RDDPs) for new or existing Type II landfill units or for a lateral expansion of a Type II landfill unit, under a construction permit issued by the Department of Environmental Quality under Part 115 of NREPA. An RDDP would generally be subject to the same requirements related to permitting, operation, closure, post-closure, financial assurance, and fees as other Type II landfills or landfill units under Part 115 and related administrative rules.

Application and Permit

A person may submit to the DEQ a project abstract, describing the general operation of an RDDP. If, based on that abstract, the director of the DEQ finds that the RDDP will provide beneficial data on alternative landfill design, construction, or operating methods, the person may then apply for a landfill construction permit authorizing the establishment of an RDDP.

An application for a RDDP construction permit would have to include the following information, in addition to information required for other Type II landfill construction applications: (1) a description of the RDDP goals; (2) details of the design, construction, and operation of the RDDP; (3) information on the types of wastes being disposed of, excluded, or added, including the types and amounts of liquid added; (4) information on the types of compliance and operational monitoring that will be performed; and (5) methods of addressing potential nuisance conditions.

If an RDDP is intended to accelerate or enhance biostabilization of solid waste, the application would also include the following: (1) an evaluation of the potential for decreased slope stability; (2) an operations management plan; (3) parameters used by the DEQ to determine when it will authorize postclosure of the RDDP; and (4) information to ensure that the operational requirements are being met. If septage waste or another

liquid waste is to be added to an RDDP, the DEQ could require that the waste originate from the county where the RDDP is located or another contiguous county.

Once a RDDP construction permit is issued, it would expire three years later, although the DEQ could grant an extension for up to three more years (up to 12 years total), if it receives an application requesting an extension within 90 days before the original expiration date and the RDDP operator provides the DEQ with an assessment of the RDDP and other information. If the DEQ does not make a decision on whether to grant an extension within 90 days after receiving an administratively complete application, the permit would be extended for three years.

Operation

The bill would require an RDDP to meet the following operational requirements:

- Ensure that added liquids are evenly distributed and side slope breakout of liquids is prevented.
- Ensure that daily cover practices or disposal of low permeability solid wastes does not adversely affect the free movement of liquids and gases within the waste mass.
- Include the following:
 - A method of monitoring moisture content and temperature within the waste mass.
 - A secondary liner and leachate collection system to monitor effectiveness of the primary liner.
 - A leachate collection system of adequate size for the anticipated increased liquid production rates.
 - A method of monitoring the depth of leachate on the liner.
 - An integrated active gas collection system of adequate size for the anticipated methane production rates and to control odors.

If the goals of the RDDP are not being met, the director of the DEQ could order the termination of all or a part of the operations of the RDDP or could order other corrective measures. Additionally, the director of the DEQ could authorize the conversion of an RDDP to a full-scale operation if the owner or operator demonstrates that the goals of the RDDP have been met and the authorization would not be considered a less stringent permitting requirement than what is required under Subtitle D of the federal Solid Waste Disposal Act. The postclosure period for a RDDP begins when the RDDP reaches a condition similar to that of other landfills prior to postclosure. The parameters of postclosure would have to be specified in the permit, and the perpetual care fund would be maintained after the final closure of the landfill.

MCL 324.11511b

House Bill 5149

Part 117 (Septage Waste Servicers) of the Natural Resources and Environmental Protection Act regulates the disposal of septage waste. The bill would add that a receiving facility that is designed to receive septage waste would include an RDDDP authorized under HB 5148.

In addition, the bill would add that the septage waste servicing license and septage waste vehicle license requirements under Part 117 would not apply to a publicly owned receiving facility (an RDDDP) subject to a permit issued under HB 5148. Also, a construction permit for a receiving facility would not be required for an RDDDP permitted under HB 5148.

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Senate Bill 747

The bill would amend Part 115 of the NREPA to prohibit bulk or noncontainerized liquid waste or waste that contains free liquids from disposal into landfills, unless the waste is one of the following: (1) household waste other than septage waste; (2) leachate or gas condensate approved for recirculation; or (3) septage waste or other liquids approved for addition in a research, development, and demonstration project (RDDDP).

In addition, the bill would prohibit a person from knowingly delivering or disposing of more than a de minimis amount of yard clippings into a municipal solid waste incinerator, unless the clippings are diseased or infested. The bill would require notification of this prohibition to be posted on the Department of Environmental Quality's website and provide to municipal solid waste customers. [The act currently prohibits a person from knowingly delivering or disposing of more than a de minimis amount of yard clippings into a landfill.]

The bill would also delete a provision that permits the disposal of green glass beverage containers into landfills through June 1, 2007, and establishes a task force to address the problems of recycling green glass containers. [The task force, which recommended that green glass beverage containers not be disposed of in landfills, issued its final report on February 22, 2005. The report is available through the DEQ's website at www.deq.state.mi.us/documents/deq-whm-stsw-greenglasstaskforcereport2-22-05.pdf]

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BACKGROUND INFORMATION:

For further information on the EPA's RD&D rule see the text of the rule at 40 CFR 285.4 (http://a257.g.akamaitech.net/7/257/2422/12feb20041500/edocket.access.gpo.gov/cfr_2004/julqtr/pdf/40cfr258.4.pdf), and the notice of final promulgation

(<http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2004/pdf/04-6310.pdf>) included in the Federal Register (Vol. 69, No. 55, March 22, 2004).

ARGUMENTS:

For:

Traditional landfills are generally designed to limit the entry of water so as to minimize the potential for groundwater contamination stemming from the seepage of landfill leachate. This process, often referred to as the “dry tomb” approach, slows the biodegradation process. However, emerging research has shown that the addition of air or liquids, such as septage waste, into the landfill has the potential to accelerate or enhance degradation and lower the post-closure period compared to the traditional dry tomb approach. Research has also shown that bioreactor landfills can increase capacity by 15 to 30 percent by increasing the density of the waste itself. This allows for a quicker return to productive use and might allow for the creation of "perpetual landfills." Landfills have a finite capacity, and the available space for constructing new or expanded landfills is rather limited in developing communities. Other potential benefits include the reduced leachate disposal costs, lower waste toxicity and mobility, and increased gas production (which can be used as a source of energy).

In addition, for many rapidly developing communities, the construction of a bioreactor landfill has the benefit of providing an alternative, environmentally sound method for disposing septage waste. The construction of on-site septic waste systems is an essential component in some residential areas, as connection to the municipal sewer system is not always feasible. Often, septage waste is disposed of under Part 117 of NREPA by means of land application. This, however, has serious environmental and public health concerns, including the contamination of surface and ground water.

For:

Aside from bioreactor landfills, the bill would encourage the development of other innovative methods of disposing of municipal solid waste. These demonstration projects may ultimately lead to alternative approaches that improve air and water quality.

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■ This analysis was prepared by nonpartisan House staff for use by House members in their deliberations, and does not constitute an official statement of legislative intent.