



Economic Impact Analysis Virginia Department of Planning and Budget

9 VAC 20-80 – Virginia Solid Waste Management Regulations Department of Environmental Quality February 22, 2007

Summary of the Proposed Regulation

The Virginia Waste Management Board (Board) proposes to amend the existing Virginia Solid Waste Management Regulations (9 VAC 20-80). Specifically, the Board proposes to: 1) clarify the closure definition and procedure with particular reference to the closure schedule specified in Code section § 10.1-1413.2; 2) modify the definition of “airport” to include military airfields along with public-use airports; 3) create a new action level of 80% of lower explosive limit (LEL)¹ for methane at the facility boundary for the control of decomposition gases; 4) add a section of “Odor Management” to address odor concerns and odor plans; 5) provide an option for sanitary landfills to apply for Research, Development, and Demonstration Plan permits; 6) streamline public participation requirements by deleting automatic public hearings for certain permit or amendment issuance processes; 7) incorporate citations referencing two statutory provisions, one for the siting of landfills from water supplies and wetlands, one for the requirement of certification that is consistent with local government waste management plans for permit or permit-by-rule applications.

Results of Analysis

There is insufficient data to accurately compare the magnitude of the benefits versus the costs. Detailed analysis of the benefits and costs can be found in the next section.

Estimated Economic Impact

The Board proposes to modify the definition of “closure” to clarify its endpoint. According to the proposed regulations, “closure” means that point in time when a waste unit of a

¹ According to 9 VAC 20-80-10, “lower explosive limit” means the lowest concentration by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and at atmospheric pressure.

permitted landfill is filled, capped, certified as final covered by a Professional Engineer, inspected, and the closure activities are accepted by the Department of Environmental Quality (DEQ). The proposed regulations includes closure-related scheduling dates to clarify the limitations to enlargement of the sanitary landfills² that are subject to prioritization pursuant to § 10.1-1413.2 of the Code of Virginia, and tables of closure dates established in *Final Prioritization and Closure Schedule for HB 1205 Disposal Areas* (DEQ, September 2001) for the convenience of the regulated community. These proposed changes will provide clarification to the landfill closure procedure and will benefit the regulated community with less confusion.

Besides the clarifications, the proposed regulations require that facilities assigned a closure date in accordance with §10.1-1413.2 of the Code of Virginia shall designate on a map, plat, diagram or other engineered drawing, areas in which waste will be disposed until the latest cessation of waste acceptance date. Since DEQ has stated that they will accept even the simplest designation, this proposed requirement will likely not create any significant costs to the facilities. The proposed regulations also allow a facility to apply for a permit, and if approved, to construct and operate a new cell that overlays (“piggybacks”) over a closed area in accordance with the permit requirements of 9 VAC20-80-250. The allowance of “piggyback” landfill units over closed unlined units under a new permit will likely create cost savings for the landfill companies, because the costs relating to permitting and landfilling on a new site, including the expense on the use of the land, will likely be lower than that of constructing a new site on top of a closed unlined site. Also, landfills on “piggyback” units will likely be more acceptable to the public than permitting and operating on a new site and will likely reduce concerns from citizens in the vicinity of the landfill sites. The estimated number of “piggybacks” units is not available according to DEQ.

Another proposed change is to include military airfields in the definition of “airport” along with public-use airports to restrict landfill and transfer station locations around military

² According to 9 VAC 20-80-10, “sanitary landfill” means an engineered land burial facility for the disposal of household waste which is so located, designed, constructed and operated to contain and isolate the waste so that it does not pose a substantial present or potential hazard to human health or the environment. A sanitary landfill also may receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, construction demolition debris, and nonhazardous industrial solid waste.

airports in order to reduce bird hazards³. According to 9 VAC 20-80-180 (Open Dump Criteria), a site or practice of disposing of putrescible waste⁴ that attracts birds and occurs within 10,000 feet of any airport runway used by turbojet aircraft or within 5,000 feet of any airport runway used by only piston-type aircraft and poses a bird hazard to aircraft. It is not known whether there are any existing landfill sites that are constructed within the required distance limit from the military airports. DEQ clarifies that this proposed change will affect new sites that are subject to permit approval but will not apply to the existing sites that have already been granted permits. Therefore, this proposed change will likely not have any significant economic impact.

The current regulations have established two compliance levels (25% LEL for methane in facility structures and 100% LEL for methane at the facility boundary) for the control of decomposition gas. The concentration of methane gas generated by the facility shall not exceed 25% of the lower explosive limit (LEL) for methane in facility structures (excluding gas control or recovery system components), and the concentration of methane gas migrating from the landfill shall not exceed the lower explosive limit for methane at the facility boundary. When the results of gas monitoring indicate concentrations of methane in excess of the above compliance levels, the operator shall: a) take all immediate steps necessary to protect public health and safety including those required by the contingency plan; b) notify DEQ in writing within five working days of learning that compliance levels have been exceeded, and indicate what has been done or is planned to be done to resolve the problem; c) within 60 days of detection, implement a remediation plan for the methane gas releases and submit it to DEQ for approval and amendment of the facility permit.

To better protect public health and safety, the proposed regulation will include a new “action” level (80% of LEL for methane at facility boundary) and retain the two compliance levels (25% of LEL for methane in facility structures and 100% of LEL for methane at the facility boundary). When the gas monitoring results indicate concentrations of methane in excess of the action levels, 25% of LEL for methane in facility structures (excluding gas control or recovery system components) or 80% of the LEL for methane at the facility boundary, the operator shall: a) take all immediate steps necessary to protect public health and safety including

³ According to 9 VAC 20-80-10, “bird hazard” means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

those required by the contingency plan, and b) notify the DEQ in writing within five working days of learning that action levels have been exceeded, and indicate what has been done or is planned to be done to resolve the problem. When the gas monitoring results indicate concentrations of methane in excess of the compliance levels, 25% of the LEL for methane in facility structures (excluding gas control or recovery system components) or the LEL for methane at the facility boundary, the operator shall, within 60 days of detection, implement a remediation plan for the methane gas releases and submit it to the DEQ for amendment of the facility permit. The proposed regulation also clarifies the contents for gas remediation plan (including the establishment of timeframes) and reorganizes the “gas control” section for better clarity. The proposed new “action” level will require the operators to provide advance notification of elevated methane levels to DEQ. According to DEQ, the facilities do not have to do anything beyond what they are currently required to do under the existing regulations except for an early notification to DEQ. Therefore, this proposed change will likely not create any new compliance costs beyond the small amount of time it takes to inform DEQ of the 80% level when reached.

The existing regulations state that the landfills have to control odors without specific provisions for control of odor. The Board proposes to add a new section of “Odor Management” to address concerns raised by citizens across the Commonwealth who live in the vicinity of landfills. The proposed regulations require that the operators of the facilities establish an odor notice and odor management plan when a problem is identified.⁵ The plan shall identify a contact at the facility that citizens can notify about odor concerns. Facilities shall perform and document an annual review and update the odor management plan, as necessary, to address ongoing odor management issues. According to DEQ, there is no efficient way to measure the level of odor near the landfill facilities for compliance purposes. Nonetheless, this proposed change will provide the citizens of the Commonwealth with a procedure to address their odor concerns and will establish better communications between DEQ and the facilities for resolution of odor issues.

⁴ According to 9 VAC 20-80-10, “putrescible waste” means solid waste which contains organic material capable of being decomposed by micro-organisms and cause odors.

⁵ According to 9VAC 20-80-280 D, odor management plans developed in accordance with Virginia Air Regulations, 9VAC5-40-140, 9VAC 5- 50-140 or other state air pollution control regulations will suffice for the provisions of this section (D).

The proposed regulations add a new section that allows sanitary landfills to apply for Research, Development, and Demonstration (RDD) plan permits subject to standards set forth in accordance with 40 CFR 258.4. On March 22, 2004, the Environmental Protection Agency (EPA) revised the Criteria for Municipal Solid Waste Landfills (MSWLF)⁶ to allow states to issue RDD permits for new and existing MSWLF units and lateral expansions. This rule allows directors of approved state programs to provide a variance from certain MSWLF criteria, provided that MSWLF owners/operators demonstrate that compliance with the RDD permit will not increase risk to human health and the environment over compliance with a standard MSWLF permit.

According to the proposed regulations, the RDD plan is optional and may be submitted for new sanitary landfills, existing sanitary landfills, or expansions of existing sanitary landfills. The RDD plan can be used: 1) to add liquids (over/beyond leachate and gas condensate from the same landfill) for accelerated decomposition of the waste mass, 2) to allow run-on water to flow into the landfill waste mass, 3) to allow testing of the construction and infiltration performance of alternative final cover systems and/or, 4) to enhance stabilization of the waste mass. If an entity elects to initiate a RDD plan under the proposed amendment, an annual report shall be prepared that shall include a summary of all monitoring data, testing data and observations of process or effects and shall include recommendations for continuance or termination of the process selected for testing. Additional monitoring and testing information may be required that could include the measurement of leachate head on the liner; landfill temperature at various locations; type, application rate and application method of various wastes including liquid wastes and water that may be placed in the landfill; additional hydraulic studies; landfill settlement rate determinations, etc. The reporting requirements are estimated to cost between \$15,000 and \$25,000 per year per landfill. At present DEQ estimates that only two to three landfills will be permitted every year under this proposed rule over the next few years. Therefore the total reporting costs are estimated to be between \$30,000 and \$75,000 per year for the first year, and increase by the similar amount per year for the next three years thereafter. On the other hand, the optional RDD program will promote innovative technologies associated with landfilling of municipal solid waste and may result in more cost-effective methods and eventually cost savings for sanitary landfills. To the extent that a facility will initiate a RDD plan only if the benefit from

⁶ MSWLF is another name for “sanitary landfills”.

the RDD program exceeds the cost in the long run, this proposed change will likely create a net long-term benefit.

The proposed regulations will streamline public participation requirements by deleting automatic public hearings for certain permit or amendment issuance processes. Under current regulations, once a draft permit is developed, a public hearing will be scheduled and DEQ will hold the announced public hearing 30 days or more after the notice of public hearing is published in the local newspaper. The Board proposes to modify the section of “Permit Issuance” to reflect that a public hearing is optional under certain circumstances. A public hearing will be held for all new landfills or increases in landfill capacity as required by the existing regulations. However, a public hearing may not be held if there is no significant public interest in the issuance, denial, modification or revocation of the permit in question, or there are no substantial, disputed issues relevant to the issuance, denial modification or revocation of the permit in question. This proposed change will create cost savings for DEQ without significant negative impact on public participation.

The Board proposes to incorporate two statutory amendments to the proposed regulations. One statutory change is related to landfill location that is protective with respect to water supplies and wetlands. Chapter 920 of the 2005 General Assembly Act reduces from five miles to three miles the distance that a landfill can be sited from a surface water or a groundwater supply intake or reservoir. Since this statutory change was effective July 1, 2005 and has been under compliance for more than one and a half years, incorporating it into the proposed regulations will likely not have any significant impact on the regulated community.

The proposed regulations also incorporate a statutory change that requires a certification that is consistent with local government waste management plans for permit or permit-by-rule application. Chapter 62 of the 2006 Act of General Assembly requires that if the application is for a new solid waste management facility permit or for modification of a permit to allow an existing solid waste management facility to expand or increase its capacity, the application shall include certification from the governing body for the locality in which the facility is or will be located that: (i) the proposed new facility or the expansion or increase in capacity of the existing facility is consistent with the applicable local or regional solid waste management plan developed and approved pursuant to § 10.1-1411; or (ii) the local government or solid waste management planning unit has initiated the process to revise the solid waste management plan to

include the new or expanded facility. No application for coverage under a permit-by-rule or for modification of coverage under a permit-by-rule shall be complete unless it contains certification from the governing body of the locality in which the facility is to be located that the facility is consistent with the solid waste management plan developed and approved in accordance with § 10.1-1411. This requirement may cause increases in costs and working hours for local government and may slow down the process of permit applications. The solid waste management companies that can not obtain a certification from the host local government may experience reduced business or incur additional costs by applying for permit of another site. On the other hand, the host local government's not granting certifications for permit applications will likely benefit the citizens in the local area given that the denial of certification is based on analysis of the potential human health, environmental, transportation infrastructure, and transportation safety impacts, etc.

Businesses and Entities Affected

DEQ reports that approximately there are 222 landfills⁷ in the Commonwealth of Virginia. Among them, 130 landfills are municipal or county government-owned and 92 landfills are private. The RDD plans will especially affect the 193 sanitary landfills, among which 90% are owned by local governments or counties, 0.5% are owned by the federal government and 9.5% are privately owned sanitary landfills.

Localities Particularly Affected

The proposed regulations will affect all localities in the Commonwealth.

Projected Impact on Employment

The proposed RDD plans will create reporting costs to facilities that elect to initiate RDD programs but will likely result in cost savings for these facilities in the long run. The allowance of "piggyback" landfills will likely create cost savings for the landfill companies. These proposed changes will likely increase profits for the facilities being affected and may have a positive impact on the number of people employed by those facilities. Those solid waste management companies that can not obtain certifications from the host local government may

⁷ This number may include closed facilities.

experience reduced business or incur additional costs by applying for permit of another site. This will likely have a negative impact on their employment.

Effects on the Use and Value of Private Property

The proposed RDD plans and the allowance of “piggyback” landfills will likely generate cost savings for facilities being affected and may have a positive impact on their asset values. The proposed requirement of certifications from the host local government for permit applications may cause reduced business and increased cost for facilities and may have a negative impact on the value of their assets. The allowance of “piggyback” landfills will likely reduce the negative impact on residential properties in the vicinity of the new landfill sites that would otherwise be constructed and operated. The host local government’s not granting certifications for some permit applications, based on analysis of the potential impact on human health and the environment, would likely raise the value of the residential properties in the local area.

Small Businesses: Costs and Other Effects

Small landfills that elect to initiate RDD programs will likely incur cost savings in the long run, although in the short term they may experience reporting cost of \$15,000 to \$25,000 per year. Those who choose to construct and operate “piggyback” landfills under new permit will likely incur cost savings rather than permitting and constructing a new site. Small businesses that can not obtain certifications from the host local government may experience reduced business or incur additional costs by applying for permit of another site. According to DEQ, 45% of the privately owned landfills are small businesses.

Small Businesses: Alternative Method that Minimizes Adverse Impact

Small businesses will likely benefit from the proposed RDD plans and the allowance of “piggybacks” landfills, as well as the proposed clarifications to the existing regulations. They may be adversely affected by the requirement of certifications in consistency with local government waste management plans for permit applications, which is required by the statutory amendment. There is no alternative method that will generate a lower adverse impact.

Legal Mandate

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.H of the Administrative Process Act and Executive Order Number 21 (02). Section 2.2-4007.H requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has adverse effect on small businesses, Section 2.2-4007.H requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a description of any less intrusive or less costly alternative methods of achieving the purpose of the regulation. The analysis presented above represents DPB's best estimate of these economic impacts.