



Economic Impact Analysis Virginia Department of Planning and Budget

9 VAC 20-80 – Waste Pile Permit by Rule

Department of Environmental Quality

August 11, 2004

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.G of the Administrative Process Act and Executive Order Number 21 (02). Section 2.2-4007.G 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. The analysis presented below represents DPB's best estimate of these economic impacts.

Summary of the Proposed Regulation

The Virginia Waste Management Act (Chapter 14, Sections 10.1-1400 through 10.11457 of the Code of Virginia) authorizes the Virginia Waste Management Board to supervise and control waste management activities in the state and to promulgate regulations necessary to carry out its powers and duties. Specifically, §10.0-1408.1 of the Code of Virginia prohibits the operation of a sanitary landfill or any other facility for the disposal, treatment or storage of non-hazardous solid waste without a permit. Section §10.1-1402 authorizes the Virginia Waste Management Board to provide for reasonable variances and exemptions necessary to carry out its powers and duties as well as the intent of the Virginia Waste Management Act and relevant federal acts.

The proposed regulation (1) provides an additional exemption from the permit requirements for land clearing debris stored in piles as long as the debris is stored in a manner prescribed in the regulation, (2) allows owners and operators of waste piles to apply for a permit-

by-rule rather than a full permit, and (3) modifies the waste pile management requirements themselves to (i) allow for the storage in piles of organic material that is not readily putrescible as long as it is stored in lined or covered waste storage areas, (ii) require that the operation plan for a waste management facility cover the issue of dust suppression and include descriptions of the management and disposition of waste materials and of waste management procedures that ensure that oldest waste materials are sent off-site for reuse or disposal before newer materials, and (iii) require the owner or operator of a waste pile to put up a closure sign within 15 days of the last receipt of waste and keep the sign in place until all closure activities have been completed.

The proposed regulation adds clarifying language and removes unnecessary language. The regulation also includes a number of changes that clarify the intent of the regulation and make the regulation consistent with current practice.

Estimated Economic Impact

(1) The existing regulation provides certain solid waste management practices conditional exemption from the permit requirements as long as they do not create an open dump, a hazard, or a public nuisance. The proposed regulation provides an additional exemption for land clearing debris. Land clearing debris (including stumps and brush, clean wood wastes, log yard scrapings consisting of a mixture of soil and wood, cotton gin trash, peanut hulls, and similar organic wastes that do not readily decompose) may be stored in piles without a permit as long as the pile meets certain minimum requirements, including how the waste is managed, the location and size of the waste pile, and disposal of the waste once industrial activities at the site have ceased.

The waste management provisions require the prevention of leachate discharges, dispersal of the waste by wind or rain, waste pile combustion or fire, and waste pile putrescence. The regulation also specifies the location and size of the waste pile for it to qualify for an exemption. Waste piles seeking an exemption from the permit requirement are required to store waste materials at the site of the industrial activity, maintain a 50 foot fire break between the waste pile and any structure or tree line (based on National Fire Protection Association guidelines), ensure that the slope of the ground within the area of the pile and within 50 feet of the pile does not exceed 4:1 (based on gradient on which construction and cleanup equipment are able to operate with ease), and make sure that waste materials are stored no closer than 50 feet

from any property line or regularly flowing water body, floodplain, or wetland (based on similar requirements in other solid waste management regulations). The size of a waste pile is restricted to covering no more than one-third of an acre and rising no more than 15 feet from the base. Finally, waste stored at a site must be disposed off at a permitted solid waste management facility within 90 days of cessation of industrial activity at the site.

The proposed exemption will provide economic benefits to owners and operators of waste piles consisting of land clearing debris. For waste piles meeting the above requirements, owners and operators will not be required to get a permit. According to estimates provided by the Department of Environmental Quality (DEQ), the price charged by consultants to prepare the required documents range between \$80,000 and \$85,000 for a full permit and between \$10,000 and \$15,000 for a permit-by-rule. In addition to these costs, owners and operators are required to pay a permit fee (a minimum of \$1,040 for a full permit and \$390 for a permit-by-rule) and all costs associated with meeting the public participation and notification requirements.

However, the proposed change may also impose economic costs. The intent of the permit requirement is to reduce the risk to the public and the environment from waste piles. The risks arise from the potential for fire, leachate discharges, and abandonment of the site. Thus, the improper storage of waste and the improper management of waste piles could create serious public health and environmental hazards. The aim of the permitting mechanism is to ensure that these activities are conducted in a manner that is protective of the public and the environment. The costs associated with obtaining a permit can be viewed as the cost of ensuring the safe use of an environmental resource. In this case, the costs associated with getting a permit are the cost of ensuring that the storage and management of waste piles is done in a manner that is protective of the public and of the air, water, and soil quality in Virginia. By providing an exemption for land clearing debris, it is possible that the proposed regulation will result in owners and operators storing land clearing debris in piles in a manner that poses a significant risk to the public and the environment. However, DEQ does not believe that the exemption is likely to significantly increase the risk to the public and to the environment. According to the agency, the requirements necessary to be eligible for the exemption are designed such that the risk to the public and to the environment from fires, leachate discharges, and abandonment are not significantly higher than under the full permit.

The net impact of the proposed change will depend on whether the benefits of providing the exemption are greater than or less than the costs associated with doing so. Requirements for the storage and management of the waste in piles should be commensurate with the risk posed by these piles to public health and the environment. If the existing full permit requirements for the storage and management of land clearing debris in piles are excessive given the risk posed by them, the proposed change is likely to produce a net positive economic impact. By ensuring that owners and operators of waste piles do not have to meet any unnecessary or excessive requirements, the proposed change is likely to produce efficiency gains. If, on the other hand, the exemption requirements are not stringent enough given the risk, the proposed change is likely to produce a net negative economic impact. By increasing risk to the public and the environment from fire, leachate discharges, and abandonment, the proposed change will shift some of the costs associated with storing land clearing debris in piles from the businesses engaged in these activities to the tax payer, resulting in an inefficient allocation of resources.

While most of the exemption requirements are based on standard practice, the rationale for setting the maximum dimensions of the waste pile to less than 15 feet in height and to less than one-third of an acre in area is unclear.

The National Fire Protection Association guidelines state that narrow, low piles facilitate fire extinguishing and recommend piles of wood chips and hogged material not exceeding 60 feet in height, 300 feet in width, and 500 feet in length (or 3.44 acres in area). However, a 1986 Virginia Tech study¹ on storing bark mulch in piles found that, to prevent the occurrence of fires, the piling height for mulch should not exceed 12-15 feet. While the National Fire Protection Association guidelines establish waste pile dimensions based on the ease of putting out a fire, the Virginia Tech study establishes waste pile dimensions based on the potential of the waste pile to catch fire. Moreover, the piling height recommended by the Virginia Tech study applies specifically to mulch. The potential for fire in a waste pile varies depending on the type of material being stored. For example, sawdust has a higher potential for fire than mulch, indicating that a pile height of less than the 12-15 feet recommended by the Virginia Tech study would be appropriate in order to prevent fires in a waste pile consisting of sawdust.

¹ White, M. S., 1986. *Spontaneous Heating and Combustion in Piled Bark Mulch*. Presentation to the 15th Annual Meeting of the National Bark Producers Association.

Another factor that played a role in restricting pile size to a maximum of 15 feet in height and one-third of an acre in area was the potential for abandonment. According to DEQ, it is not always economically feasible to clean up very large sites that have been abandoned. Thus, in order to keep the cleanup burden in the event of a site being abandoned at manageable proportions, the maximum size of the waste pile was restricted to the abovementioned dimensions.

According to DEQ, the maximum dimension of a waste pile eligible for exemption was determined as a compromise between members of the Technical Advisory Committee (seeking a maximum waste pile dimension of 20 feet in height and between one-third and one-half acre in area) and the agency (seeking a maximum waste pile dimension of 12 feet in height and one-third acre in area). Thus, the determination was made based on considerations not solely to do with the public health and environmental risk posed by these waste piles. In order to produce the most efficient outcome, the maximum dimensions of a waste pile eligible for an exemption should be based solely on reducing the public health and environmental risk from fire or abandonment to an acceptable level.

In order to address the risks to public health and the environment from waste pile fires and from abandonment of these sites, it may be advisable to establish separate requirements for each.

The maximum size of a waste pile eligible for exemption could be determined based on the public health and environmental consequences of a waste pile fire. However, the maximum dimension of the waste pile should be not determined based on eliminating all risk of a waste pile fire. Instead it should be determined based on reducing those risks that have significant public health and environmental consequences. The public health and environmental consequences of a fire in a pile of land clearing debris include the potential for the fire spreading to surrounding areas and the potential for public health and environmental damage from smoke generated by the fire. Small fires in a waste pile are not likely to produce a very large adverse impact on public health or the environment. Based on the National Fire Protection Association guidelines, a fire in a waste pile of land clearing debris is not likely to be as hard to put out as, say, a fire in tire pile. Moreover, the firebreak requirement of a minimum 50 feet distance between a waste pile and any structure or tree line is likely to prevent small fires spreading from

the waste pile to surrounding areas before they can be put out. Finally, as these waste piles consist solely of non-hazardous organic material and tend to be located in less populated areas, the smoke generated by a small fire is likely to have little to no impact on public health or the environment. In the case of such fires, the public health and environmental benefits associated with reducing the risk of fire are very small. Thus, determining the maximum pile size with the intent of eliminating all risk of fires, even small fires that are likely to have little public health or environmental impact, is likely to be unnecessarily restrictive. The benefits of such a restriction are likely to be small and will most likely be outweighed by the costs of placing such a restriction. The maximum pile size should be determined based reducing or eliminating those risks that are likely to have significant consequences for public health and the environment. In addition, varying the maximum pile size requirement based on the type of material being stored would provide greater flexibility without significantly affecting the risk to the public and the environment, thus, further enhancing the efficiency of the regulation.

Concerns regarding abandonment of the site can be addressed by factors other than waste pile size. For example, financial assurance requirements can be incorporated into the proposed regulation that would ensure adequate resources to cover the cost of cleanup in the event of the site being abandoned. Rather than restricting the size of the waste pile to 15 feet in height and one-third acre in area, including a separate requirement for financial assurance for any waste piles exceeding these dimensions would address the potential for site abandonment.

Designing the exemption requirements in the above manner is likely to increase the efficiency of the regulation by making the requirements of the regulation commensurate with the risk of fire and abandonment posed by these waste piles.

(2) The proposed regulation allows owners and operators of waste piles to apply for a permit-by-rule rather than a full permit. Under the existing regulation, owners and operators of waste piles are required to apply for a solid waste management permit prior to storing waste in piles. Under the proposed regulation, owners and operators of waste piles will be deemed to have a permit as long as they meet the permit-by-rule requirements. The enforcement aspect of the regulation remains unchanged. DEQ intends to conduct as many inspections as under a full permit (currently, twice a year).

The permit-by-rule provision for waste piles is likely to produce economic benefits. By requiring owners and operators of waste piles to meet the less burdensome permit-by-rule provisions, the proposed regulation is likely to lower the costs of obtaining a permit for storing waste in piles. Some of the less burdensome requirements include requiring the construction and design of the facility to be certified rather than prepared by a professional engineer, requiring the siting of the facility to be certified by the owner rather than a professional engineer, and less detailed operation and closure plans. Based on estimates provided by DEQ, the price charged by consultants to prepare the required documents range between \$80,000 and \$85,000 for a full permit and between \$10,000 and \$15,000 for a permit-by-rule. Thus, the proposed change will result in saving in the range of between \$65,000 and \$75,000. In addition to these costs, owners and operators are also required to pay a permit fee. The fee for a full permit is a minimum of \$1,040 and is based on the cost incurred by DEQ in reviewing materials and issuing the permit. The fee for a permit-by-rule is \$390². Thus, owners and operators of waste piles are likely to save upwards of \$650 in permit fees. In addition to lowering the cost associated with getting a permit, the proposed change is also likely to reduce the time between application for and issuance of the permit. DEQ estimates that a permit-by-rule will be granted approximately ten days from the date of application.

However, the proposed change may also impose economic costs. As mentioned previously, the aim of the permitting mechanism is to ensure that the storage and management of waste in piles is conducted in a manner that is protective of public health and the environment. Thus, the costs associated with obtaining a permit can be viewed as the cost of ensuring the safe use of an environmental resource. By reducing the requirements for waste stored in piles, the proposed regulation may be increasing the risk to public health and the environment through an increased risk of fire, leachate discharge, and abandonment at sites where waste is stored in piles.

DEQ believes that the permit-by-rule requirements are adequate to protect public health and the environment and the proposed change is not likely to have a significantly impact on the risk to the public and the environment from waste piles. According to the agency, the differences between the full permit and the permit-by-rule requirements are not sufficient to lead to a substantial increase in risk to the public and the environment. The construction and design

² According to DEQ, the fee amount for the permit-by-rule was based on an estimate of resources used by the

of the waste pile, while they do not have to be prepared by a professional engineer, are required to be certified by one as meeting the design and construction standards specified in the existing regulation for the issuance of a full permit. Moreover, even though the siting of the waste pile has to be certified by the owner, and not a professional engineer, it still has to meet the full permit requirements in the existing regulation. Finally, operation and closure plans, while less detailed than what is required for a full permit, are still required to address the issues of fire, leachate discharge, and abandonment. The enforcement aspect of the proposed regulation remains unchanged. DEQ intends to continue to conduct inspections of these sites on a bi-annual basis. The absence of significant differences between the permit-by-rule and full permit requirements coupled with the intended enforcement action indicate that the economic costs associated with the proposed change are not likely to be very significant. Moreover, under the existing regulation, transfer stations, materials recovery facilities, energy recovery, thermal treatment, and incineration facilities, and composting facilities are all allowed to seek a permit-by-rule. Allowing these facilities the option of applying for a permit-by-rule rather than a full permit does not appear to have led to any significant adverse consequences to the public or the environment.

The net economic impact of the proposed change will depend on whether the permit-by-rule requirements are consistent with the risk posed to the public and the environment from waste being stored in piles. If the permit-by-rule requirements are appropriate, the proposed change is likely to have a net positive economic impact. By ensuring that owners and operators of waste piles do not have to meet any unnecessary or excessive requirements under a full permit, the proposed change is likely to produce efficiency gains. If, on the other hand, the exemption requirements are not stringent enough given the risk, the proposed change is likely to produce a net negative economic impact. By increasing risk to the public and the environment from fire, leachate discharges, and abandonment, the proposed change will shift some of the costs associated with storing waste in piles from the businesses engaged in these activities to the tax payer, resulting in an inefficient allocation of resources. It is not possible to precisely estimate at this time the cost to the public of proposed change. Such an estimate would require being able to calculate the risk of fire, leachate discharges, or abandonment of waste pile and the cost to the tax payer in the event of each of these occurrences. However, based on the above

discussion, it does not appear that the economic costs associated with allowing permit-by-rule are likely to be very large and are likely to be outweighed by the benefits to owners and operators of applying for a permit-by-rule rather than a full permit.

(3) The proposed regulation also modifies the waste pile requirements themselves to (i) allow for the storage in piles of organic material that is not readily putrescible, as long as it is stored lined or covered waste storage areas, (ii) require that the operation plan for a waste management facility cover the issue of dust suppression and include descriptions of the management and disposition of waste materials and of waste management procedures that ensure that oldest waste materials are sent off-site for reuse or disposal before newer materials, and (iii) require the owner or operator of a waste pile to put up a closure sign within 15 days of the last receipt of waste and keep the sign in place until all closure activities have been completed.

Under the existing regulation, putrescible waste cannot be stored in a pile for more than one day. The proposed regulation relaxes this requirement to allow some wastes that are not readily putrescible to be stored in piles for more than a day. This change is intended to allow facilities additional operational flexibility to store materials for which they may not have an immediate market. However, the benefit of providing the additional flexibility has been balanced against the cost of any increase in risk to the public and to the environment resulting from allowing the storage of moderately putrescible waste in piles. It is not possible to precisely estimate the benefit of the additional flexibility to facilities storing these types of materials and the cost to the public and the environment of doing so. However, DEQ believes that the costs associated with the proposed change are not likely to be significant. According to the agency, the storage and waste management requirements for these types of waste established in the regulation are adequate to protect public health and the environment.

The new operational requirements specified in the proposed regulation are likely to impose additional costs on facilities storing waste in piles. According to DEQ³, depending on weather conditions, landfills spend between \$100 and \$150 a day in dust suppression (the estimate includes equipment and labor costs). However, dust suppression costs for facilities storing waste in piles is likely to be lower than that for landfills as they are likely to have fewer

³ The estimate is based DEQ conversations with personnel at two landfills, one with approximately 50 customers per day and the other with between 100 and 150 customers per day. Depending on weather conditions, both spent a maximum of one or two hours a day in dust suppression.

customers and trips per day to the waste pile. In addition to the costs of dust suppression, facilities will also be required to describe their waste management practices and ensure that the oldest waste is reused or disposed first. These additional costs have to be balanced by the additional benefits to the public and the environment of these requirements. The net economic impact of the proposed change is likely to depend on whether the additional costs are greater than or less than the benefits. It is not possible at this time to precisely estimate the all the costs and benefits of the proposed change.

The additional sign-posting requirement is not likely to have a significant economic impact. Any waste dumped on a waste pile following closure of a facility is the responsibility of the owner and/or operator of the waste pile. Thus, it is in their interest to do adequately signpost the area following closure. According to DEQ, most facilities are likely to be meeting the signposting requirement even though it is not required in the existing regulation. Thus, requiring it under the proposed regulation is not likely to have a significant effect on current practice.

DEQ has not issued any permits to-date allowing for the storage of waste in piles. Thus, facilities that are currently storing waste in piles are doing so illegally. Some of these facilities are or have been under enforcement action. According to DEQ, two violations have already been issued, one violation is currently in enforcement, and one violation is pending. DEQ further estimates that there are nine more candidates for enforcement action. No fines have been collected to-date following an enforcement action. The intent of the proposed regulation is reduce the requirements of the regulation as they relate to waste piles to the minimum necessary to protect public health and the environment and, thus, encourage facilities storing waste in piles to be permitted. In addition, the proposed regulation is also intended to improve enforcement activities and make them more effective.

Businesses and Entities Affected

The proposed regulation is likely to affect all businesses and entities storing waste in piles. These individuals and entities will now be able to seek an exemption from the permit requirements for storing land clearing debris in piles. They will also be allowed to apply for a permit-by-rule for storing other types of waste in piles instead of a full permit. The permit-by-rule requirements are less burdensome and take a shorter amount of time to review than a full permit. Finally, requirements relating to the management of waste piles are modified to allow

moderately putrescible wastes to be stored in piles for more than one day. In addition, operational plan requirements have been expanded and a signposting requirement included in the proposed regulation.

According to the Virginia Tech Department of Wood Science, there are approximately 800 primary and secondary wood product manufacturers operating in the state that would be affected by the proposed change. Moreover, the primary manufacturers (approximately 300) produce over 80% of the residue that would be managed under this regulation. In addition, some agricultural industries could also be affected by the proposed regulation. In all, DEQ estimates that there are approximately 300 businesses and entities likely to be affected by the proposed regulation.

Localities Particularly Affected

The proposed regulation applies to all localities in the Commonwealth. However, the proposed regulation will have the most impact in areas where waste is likely to be stored in piles, i.e., areas where there is not a ready market for products such as sawdust and wood chips. Most of these areas are located in southwest Virginia, with a few located in the tidewater area (relating to the storage of peanut hulls).

Projected Impact on Employment

The proposed regulation is not likely to have a significant impact on employment.

Effects on the Use and Value of Private Property

The proposed regulation affects businesses and entities storing waste in piles. These businesses will have the option of seeking an exemption for storing land clearing debris in piles or a permit-by-rule instead of a full permit for storing other waste in piles. The exemption and permit-by-rule requirements are less burdensome and less time consuming than the full permit requirements. By reducing the costs associated with being in compliance with the regulation, the proposed changes are likely to lower operation costs and increase the asset value of these businesses. However, as none of these facilities have to-date applied for a permit, the magnitude of the positive impact is unclear. In addition to the exemption and permit-by-rule provisions, the proposed regulation also modifies the waste management requirements for waste piles. These modifications are likely to increase the costs of compliance for a business, thus having a negative

impact on their asset value. The net impact of the all the proposed changes is likely to be positive. Any increase in cost due to modifications to the waste management requirements are likely to be outweighed by the lower cost associated with the exemption and permit-by-rule requirements.