



Economic Impact Analysis Virginia Department of Planning and Budget

12 VAC 5-585 – Biosolids Use Regulations Department of Health August 18, 2005

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. The analysis presented below represents DPB's best estimate of these economic impacts.

Summary of the Proposed Regulation

The State Board of Health (board) proposes to amend the Biosolids Use Regulations to establish guidelines for testing, certifying and training of Class B sewage sludge (biosolids) land applicators. Under the proposed regulation, no person shall land apply biosolids unless a certified sewage sludge land applicator is onsite at all times during such land application.

Estimated Economic Impact

Biosolids are the treated form of the sewage sludge generated during the wastewater treatment process. Applying biosolids to crop land, strip mines, public parks, and other areas has become a common practice in the United States, which provides an effective and environmentally friendly way to dispose of wastes while simultaneously improving soil quality. According to the National Academies' National Research Council¹, there is no documented

¹ "Biosolids Applied to Land: Advancing Standards and Practices", the National Academy of Sciences, 2002

scientific evidence of adverse human health effects from treated sewage sludges applied to land in accordance with the Environmental Protection Agency (EPA)'s regulation. However, individuals have expressed concerns about whether the land application operations on permitted sites are being adequately supervised. In order to ensure that biosolids are properly land applied on permitted sites so as to protect public health and the environment from exposure to heavy metals, toxic chemicals, and pathogens, the proposed regulation requires that a certified land applicator be on site to supervise the land application operations all the time during the land application. According to Virginia Department of Health (VDH), responsibilities of the certified land application supervisor will include: to establish the means for transport trucks to enter and exit the permitted sites, to ensure that transport trucks meet all requirements and are unloaded in a safe manner, to track the biosolids source manifests, to place the flags marking the application area, to ensure that biosolids spreading equipment is properly calibrated so that the application rate is correct based on the biosolids characteristics, to ensure that all other permit requirements are adhered to during the land application operations, to ensure that tracked material or spillage from transport trucks is removed from road surfaces to the extent possible, to provide the required advance notification of operations and maintain good communications with local government representatives, such as local monitors, and with the State Regulatory Agencies on operational problems and complaints.

The proposed land applicator certification program will ensure that the certified land applicators will have the minimum knowledge base necessary to handle the above duties. Under the proposed regulation, a certified land applicator will have to pass the land applicators certification examination administered by VDH, which will cover knowledge of biosolids, soil science, public health protection concept, land application and site management, occupational safety and health protection, land application training and certification regulatory requirements. The certified land applicators will also be required to complete at least four hours of continuing education course work within the past two years to have their certificates renewed. The continued education requirement will serve to ensure that these individuals will stay up-to-date with the changes to regulatory requirements such as nutrient management standards, decreasing the risk of violation of permit restrictions such as minimum buffer zones.

With a certified land application supervisor on site who is educated about biosolids land applications and trained to keep in close communication with the state and local government,

land applications will likely be practiced in closer accordance with the federal and state regulations so as to reduce potential harm to public health and the environment. For example, potential contamination of ground water and exposure of biosolids on the roads could be reduced.

The proposed regulation will increase the cost of certificate applications for the private firms that land apply biosolids through contracts with municipalities and agreements with landowners and farmers. Currently the land application companies usually hire persons with land application experience to supervise their land applications on permitted sites, but there is no requirement from VDH as to the eligibility of the supervisor. Under the proposed regulations, the companies will have to have a certified land applicator on site at all times during the land application. The companies may encourage their current land application supervisors to obtain certification or, if needed, replace the current supervisor with someone who has a certificate. In either case, a certification will cost \$200 annually for the companies, which includes a \$100 certificate or re-certification fee, and a \$100 training fee. According to VDH, currently there are ten land application companies in the Commonwealth of Virginia which are expected to apply for 40 certificates. Therefore, the proposed regulation will cause an increase in fees of \$8,000 annually for these land application companies statewide.² The companies may also need to pay for additional supervisor-hours to ensure that their land applications will continue without interruption because under the proposed regulations, a certified land applicator may not leave the site for more than 30 minutes. The increase in cost will reduce profits commensurately. However, the change in cost is not likely big enough to discourage the land application companies from offering services.

For the certified applicator supervisors, the proposed regulation will cause additional time spent on certificate application, training, exams and transportation. For example, each exam is expected to last one to two hours. Each certified land applicator will be required to attend at least four hours of training within the past two years to have his/her certificate renewed.

The proposed regulation will also increase the administration cost for VDH. According to VDH, the estimated increase in administration cost is one man-year of staff time at a cost of

² Calculation: $200 \times 40 = \$8,000$.

\$60,000, which will be funded from the Division of Wastewater Engineering budget. Fees collected from certification and training will be \$8,000 annually.

According to an EPA-requested report by the National Research Council,³ there is currently a lack of knowledge about potential human health effects and exposure of biosolids land application. Thus, it is not possible to quantify the benefits, and it is not clear whether the benefits of the certificate program exceed these costs.

Businesses and Entities Affected

Ten land application companies that perform biosolids land applications in the Commonwealth will be affected by the proposed regulatory change. The three largest companies are Synagro Mid Atlantic, Inc., Recyc System, Inc., and Nutri-Blend, Inc.⁴

The proposed regulation will create an increase in fees of \$8,000 for the ten land application companies annually. For example, the largest land application company, Synagro Mid Atlantic, Inc., is expected to apply for 20 certificates with a total fee of \$4,000. The second largest company, Recyc Systems, Inc. is expected to submit 10 to 12 certificate applications and the cost will be between \$2000 and \$2400. Another major contractor, Nutri-Blend, Inc. is expected to apply for 6 to 8 certificates with a cost between \$1200 and \$1600. The seven smaller companies are expected to apply for two certificates each, with an annual fee of \$400 each. The increase in cost will not likely be big enough to discourage the ten companies from biosolids land applications.

Localities Particularly Affected

The proposed regulation particularly affects the 51 counties where VDH biosolids permits have been issued. The followings are the top ten counties based on the amount of biosolids applied in 2003.

³ Biosolids Applied to Land: Advancing Standards and Practices”, the National Academy of Sciences, 2002

⁴ Source: the Virginia Department of Health

Rank	County	Amount Applied in 2003 (Dry Tons)
1	Buckingham	22477
2	Nottoway	17348
3	Dinwiddie	15060
4	Caroline	14598
5	Madison	11788
6	Cumberland	10641
7	Louisa	8488
8	Appomattox	8367
9	Charlotte	8210
10	Westmoreland	7709

Projected Impact on Employment

The proposed regulation will moderately increase costs for the firms, but will likely not adversely affect employment. Currently the land application companies usually hire persons with land application experience to supervise their land applications on permitted sites. The requirement of a certified land applicator on site at all times during the land application will encourage the companies to help their current land application supervisors obtain the certificate and fulfill the annual training requirement in the following years. On the other hand, the companies may need to pay for additional supervisor-hours to ensure that their land applications will continue without interruption because under the proposed regulations, a certified land applicator may not leave the site for more than 30 minutes.

Effects on the Use and Value of Private Property

The requirement of a certified land applicator being on site all the time will ensure that land applications are being practiced in accordance with the federal and state regulations so as not to impose harm to public health and environment. This proposed regulation may help to relieve the public's skepticism about the safety of biosolids land applications. Therefore, more people may be willing to accept land applications on their land or on the neighborhood land. As a result, the value of private properties on or surrounding the areas that have been land applied may increase.

Small Businesses: Costs and Other Effects

According to VDH, all of the ten land application companies are small businesses with fewer than 500 employees. The proposed regulation will create fees of \$8,000 for the ten land application companies annually. Specifically, the largest land application company, Synagro Mid Atlantic, Inc., will incur an increase in cost of \$4,000. The increase in cost ranges from \$2000 to \$2400 for the second largest company, Recyc Systems, Inc., and from \$1200 to \$1800 for the third largest, Nutri-Blen, Inc. The seven smaller companies will have an increase in cost of \$400 each annually. Although the increase in cost will reduce profits commensurately, the change in cost is not likely big enough to have any significant effect on the behavior of the businesses.

Small Businesses: Alternative Method that Minimizes Adverse Impact

The proposed certified land applicator program will ensure that biosolids land applications are being practiced in accordance with the federal and state regulations. There is no clear alternative that can have a smaller adverse effect.