

Department of Legislative Services
Maryland General Assembly
2011 Session

FISCAL AND POLICY NOTE
Revised

House Bill 24

(Delegate O'Donnell)

Environmental Matters

Education, Health, and Environmental Affairs

Agriculture - Sewage Sludge - Timing of Winter Application

This bill requires that Maryland Department of Agriculture (MDA) regulations that, under current law, must prescribe the criteria, form, and content for certified nutrient management plans, establish criteria for the timing of the winter application of sewage sludge that are the same as or substantially similar to the criteria adopted for the timing of the winter application of animal manure.

The bill takes effect July 1, 2014.

Fiscal Summary

State Effect: The bill is not expected to significantly affect State finances in the near term, but it could contribute to increased State capital and/or operating expenditures in the future, associated with wastewater treatment plants owned and/or operated by the Maryland Environmental Service (MES), to the extent criteria established by MDA limit or prohibit land application of sewage sludge during the winter. However, because MDA is already in the process of developing requirements for the timing of winter nutrient application, such impacts may occur even in the absence of this bill.

Local Effect: Certain local governments incur increased costs in future years to dispose of or store sewage sludge to the extent criteria established by MDA (once the bill takes effect in 2014) limit or prohibit land application of sewage sludge during the winter. However, because MDA is already in the process of developing requirements for the timing of winter nutrient application, such impacts may occur even in the absence of this bill. **This bill may impose a mandate on a unit of local government.**

Small Business Effect: Potential meaningful.

Analysis

Current Law:

Nutrient Management Plans

Pursuant to the Water Quality Improvement Act of 1998 (Chapters 324 and 325), agricultural operations with \$2,500 or more in gross annual income and livestock operations with 8,000 pounds or more of live animal weight must have and comply with a nutrient management plan for nitrogen and phosphorus. Different implementation dates applied to operations using chemical fertilizers and operations using sewage sludge or animal manure. Operations using sewage sludge or animal manure have been required to comply with a nutrient management plan for nitrogen and phosphorus since July 1, 2005.

MDA certifies and licenses nutrient management consultants and businesses to prepare nutrient management plans for farm operations and also issues certificates to farm operators to develop their own plans. In consultation with the Nutrient Management Advisory Committee (NMAC), MDA is required, by regulation, to prescribe the criteria, form, and content for certified nutrient management plans applicable to licensees and certificate holders and also establish specified continuing education, recordkeeping, and reporting requirements.

Under MDA regulations, timing of nutrient application is one of the elements required to be addressed in determining a nutrient management plan's recommendations. Those recommendations must be consistent with specified guidelines within the Maryland Nutrient Management Manual. The manual does not specifically address timing of the winter application of sewage sludge, but it contains specific restrictions on the winter application of manure, specifying that manure may be applied in the winter (November 16 through February 28) only if the farm operation has inadequate storage, a nonstackable manure, and no other reasonable option to manage it. Specified guidelines must be followed if winter application is necessary because of inadequate storage, but they are intended only as a temporary measure. The manual encourages livestock and poultry producers to have adequate manure storage to accommodate manure production through the winter months.

Maryland Department of the Environment Regulation of Sewage Sludge

The Maryland Department of the Environment (MDE) regulates the land application of sewage sludge, with any applicable regulations adopted by MDE requiring the approval of MDA. A person must have an MDE sewage sludge utilization permit, for each utilization site, in order to utilize (including land application) sewage sludge in the State.

Various requirements are specified in MDE regulations for the application of sewage sludge to agricultural land. Relevant to the winter application of sewage sludge, the regulations prohibit, subject to certain exceptions, application to agricultural land under certain adverse weather conditions – specifically, when the soil is saturated, the ground is covered with snow, or when weather conditions prevent adherence to a requirement to incorporate the sludge into the soil. Under the exceptions, sewage sludge may be injected into soil through up to six inches of snow and may be surface applied to frozen ground under certain circumstances.

Use and disposal of sewage sludge is also regulated by the federal government under 40 CFR 503.

Background: Sewage sludge is one of the final products of the treatment of sewage at a wastewater treatment plant, after treatment has broken down the organic matter and killed disease-causing organisms. According to MDE, more than 700,000 wet tons of sewage sludge is generated in Maryland each year. MDE indicates that the application of sewage sludge to agricultural land recycles nutrients, saves landfill space and money, and helps reduce nutrient pollution to the Chesapeake Bay.

In 2008, 30% of the utilized sewage sludge was applied to agricultural land, 47% was hauled out of State, and the remainder went to other uses, including 6% to landfill utilization/disposal. At the end of 2008, there were 701 active sewage sludge permits. Of those permits, 316 were for land application, the vast majority of which appear to be for agricultural land application.

MDA and MDE advise that the departments have been discussing draft requirements for the timing of nutrient application (including chemical fertilizer, animal manure, and sewage sludge) in the winter, to be included in the Maryland Nutrient Management Manual (which is incorporated by reference in MDA regulations). NMAC will need to review any such requirements, however. MDA advises that the requirements will be more stringent than MDE's current regulations relevant to the winter application of sewage sludge.

State Fiscal Effect: State finances are not expected to be significantly affected in the near term. However, to the extent criteria established by MDA as a result of this bill (once it takes effect in 2014) limit or prohibit land application of sewage sludge during winter months, the restriction or elimination of that disposal option during the winter could, in future years, be a contributing factor to increased capital and/or operating costs borne by the State to either store or dispose of in another manner sewage sludge generated during winter months at wastewater treatment plants owned and/or operated by MES.

MES currently uses land application as a disposal option for sewage sludge generated from three of its wastewater treatment plants (one of which is owned by MES and the other two are owned by the State but operated by MES), contracting to have sewage sludge hauled to farm sites in Virginia. MES indicates that regulations in Virginia are projected to become more stringent, which would limit future disposal options, and that land application of the sewage sludge in Maryland could become an alternative at some point in the future.

MES indicates that, if it is not able to apply sewage sludge to land during winter months, it would need to construct additional storage at two of the three facilities for which it currently uses land application to dispose of sewage sludge (Dorsey Run Advanced Wastewater Treatment Plant – owned by the State; and Freedom District Wastewater Treatment Plant – owned by MES) at a cost of several million dollars. The two plants serve State facilities as well as local and private facilities. Alternatively, transporting the sewage sludge to landfills would increase MES' costs in comparison to land application by an estimated \$49,000 per year; any increase in costs would be allocated among the users of the plants, including the State.

Legislative Services notes that, while the bill requires MDA to establish specified criteria for the timing of winter application of sewage sludge, MDA is already in the process of developing requirements more stringent than current MDE regulations, which could be adopted even in the absence of this bill. Thus, the potential impacts discussed here may occur even in the absence of the bill.

Local Fiscal Effect: Local governments are affected to the extent the criteria established by MDA under the bill, once it takes effect in 2014, limit or prohibit the land application of sewage sludge during the winter. Local government-owned/-operated wastewater treatment plants that currently rely on land application to dispose of sewage sludge may be required to find other means to dispose of the sewage sludge or store it, which may result in an increase in costs.

Harford County, for example, indicates that it does not have sufficient sewage sludge storage area and would incur increased capital and/or operating costs if land application during the winter is prohibited. One alternative to land application is transporting the sewage sludge to a landfill at more than 2.5 times the cost of land application. Harford County estimates that, based on its current sewage sludge production and current bids for land application and landfill disposal, its costs would increase by approximately \$370,000 per year to dispose of the sewage sludge in a landfill. Howard County indicates its costs could increase by approximately \$400,000 annually to haul sewage sludge to a landfill, but notes that there may be limited available landfill capacity. Anne Arundel County and the Washington Suburban Sanitary Commission also indicate that they could be significantly impacted if land application of sewage sludge in Maryland is restricted,

citing potential capital costs of several million dollars to build additional storage. Concerns about the time it would take to permit and construct additional storage facilities and community acceptance of the facilities were also raised.

MDE indicates that there are roughly 43 publicly owned wastewater treatment plants in the State that are authorized for land application of sewage sludge.

Legislative Services notes that, while the bill requires MDA to establish specified criteria for the timing of winter application of sewage sludge, MDA is already in the process of developing requirements more stringent than current MDE regulations, which could be adopted even in the absence of this bill. Thus, the impacts discussed here may occur even in the absence of the bill.

Small Business Effect: Small businesses involved in the generation or management/disposal of sewage sludge may be affected to the extent that the land application of sewage sludge in the winter is limited or prohibited by criteria established by MDA as a result of the bill. The magnitude of any impact is uncertain. Presumably a change in the means of disposing of (or storing) a significant percentage of the sewage sludge generated in the State during the winter may be detrimental to certain small businesses involved with or using land application but possibly beneficial to others that may generate business from other means of disposal or storage.

Farmers (most of whom are small businesses) may also be affected by the criteria established by MDA for the timing of winter application of sewage sludge. MDA indicates that some farmers depend on sewage sludge for their land's nutrient value, but that any effect on farmers of limits on winter application of sewage sludge may not be significant and may possibly be beneficial. MDA indicates that the nutrient value of sewage sludge and animal manure begins to decrease once they are applied and, therefore, application closer to the time of crop production, rather than over the winter, could have greater nutrient value for crop production.

Additional Information

Prior Introductions: HB 813 of 2010 received an unfavorable report from the House Environmental Matters Committee.

Cross File: None.

Information Source(s): Maryland Department of Agriculture; Maryland Department of the Environment; Maryland Environmental Service; Washington Suburban Sanitary

Commission; Baltimore City; Anne Arundel, Harford, Howard, Montgomery, and Wicomico counties; Department of Legislative Services

Fiscal Note History: First Reader - February 7, 2011
mlm/lgc Revised - House Third Reader - March 18, 2011

Analysis by: Scott D. Kennedy

Direct Inquiries to:
(410) 946-5510
(301) 970-5510