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**SENATE JOINT RESOLUTION NO. 271**  
**AMENDMENT IN THE NATURE OF A SUBSTITUTE**

(Proposed by the House Committee on Rules  
on February 13, 2015)

(Patron Prior to Substitute—Senator Norment)

*Requesting the Virginia Institute of Marine Science and the Department of Mines, Minerals and Energy's Division of Geology and Mineral Resources' Virginia geological survey, in consultation with the United States Geological Survey's Toxic Substances Hydrology Regional Contamination Investigation Program, to study the short-term and long-term effects of the storage and land application of industrial wastes and sewage sludge on public health, residential wells, and surface and ground water. Report.*

WHEREAS, prior to 1994, the Department of Environmental Quality (DEQ) regulated all land application of treated sewage sludge, commonly known as biosolids, when biosolids were applied to agricultural lands; and

WHEREAS, in 1994, the General Assembly directed the Virginia Department of Health (VDH) to adopt regulations to ensure that (i) sewage sludge permitted for land application, marketing, or distribution is properly treated or stabilized; (ii) land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment; and (iii) the escape, flow, or discharge of sewage sludge into state waters in a manner that would cause pollution of state waters, as those terms are defined in § 62.1-44.3 of the Code of Virginia, will be prevented; and

WHEREAS, in 2007, the General Assembly authorized the transfer of all regulatory oversight of treated sewage sludge, commonly known as biosolids, from VDH to DEQ; and

WHEREAS, since 2008, biosolids have been land applied in at least 68 localities in the Commonwealth, with at least 54 of those localities receiving biosolids annually; and

WHEREAS, between 2008 and 2013, an average of 221,000 dry tons of biosolids have been spread over an average of 63,000 acres annually; and

WHEREAS, in accordance with House Joint Resolution No. 694 (2007), the Secretary of Natural Resources and Secretary of Health and Human Resources convened a panel of experts in 2007 to study the impact of land application of biosolids on human health and the environment; and

WHEREAS, the General Assembly posed specific questions to the panel and requested that it consider the typical contaminant concentrations and application rates of biosolids in its study; and

WHEREAS, the panel included stakeholders from a broad range of disciplines, including medicine, higher education, forestry, agronomy, environmental science, ecology, veterinary medicine, and law; and

WHEREAS, the Secretary of Health and Human Resources and the Secretary of Natural Resources published the final report of the panel in 2008; and

WHEREAS, the panel uncovered no evidence or literature verifying a causal link between biosolids and illness but recognized gaps in the science and knowledge surrounding this issue; and

WHEREAS, the panel stated these gaps could be reduced through highly controlled epidemiological studies relating to health effects of land-applied biosolids and additional efforts to reduce the limitations in quantifying all the chemical and biological constituents in biosolids; and

WHEREAS, the panel stated that there are gaps in the research to characterize the composition, fate, and effects of pharmaceutical and personal care products and other persistent organic compounds in biosolids, as well as in other products, materials, and the environment; and

WHEREAS, House Joint Resolution No. 694 also directed the panel to perform a detailed analysis of the chemical and biological composition of biosolids; and

WHEREAS, detailed analysis of the vast number of constituents of biosolids, combined with the specialized analytical methodologies employed to detect and quantify these constituents, involves significant cost; and

WHEREAS, because no funding was available to conduct new analyses, the panel was limited in performing a detailed analysis of the chemical and biological constituents of biosolids; and

WHEREAS, § 62.1-44.3 of the Code of Virginia defines industrial wastes as "liquid or other wastes resulting from any process of industry, manufacture, trade, or business or from the development of any natural resources"; and

WHEREAS, the land application of industrial wastes in Virginia is regulated by the Virginia Department of Agriculture and Consumer Services (VDACS) and DEQ; and

WHEREAS, the Virginia Department of Agriculture and Consumer Services regulates certain industrial wastes as "industrial co-products" in accordance with the Virginia Fertilizer Law (§ 3.2-3600 et seq.) and Virginia Agriculture Liming Materials Law (§ 3.2-3700 et seq.), which provide for the marketing and distribution of industrial wastes; and

60 WHEREAS, the land application of industrial wastes that are not regulated by VDACS is regulated  
61 by the State Water Control Board and DEQ; and

62 WHEREAS, industrial wastes from over 35 facilities are land applied in Virginia pursuant to the  
63 terms of a Virginia Pollution Abatement or Virginia Pollutant Discharge Elimination System Permit  
64 issued by DEQ; and

65 WHEREAS, since taking over the regulatory program from VDH, DEQ has conducted over 10,000  
66 inspections of biosolids and industrial wastes land application sites; and

67 WHEREAS, biosolids and industrial wastes are land applied on less than one percent of the cropland,  
68 pastureland, and woodland on Virginia farms; and

69 WHEREAS, on average, less than 10,000 dry tons of industrial wastes are land applied annually in  
70 Virginia, which is less than five percent of the annual amount of biosolids land applied in Virginia; and

71 WHEREAS, the Department of Environmental Quality permits include authorization for land  
72 application of industrial wastes from a variety of facilities, including chicken and pork processing and  
73 packaging, apple processing, breweries, concentrated and dried soup stocks manufacturing, confectionary  
74 manufacturing, beverage manufacturing, snack cake manufacturing, fish processing, poultry hatching,  
75 meat processing, tomato processing, wood processing, rendering, farmers' markets, and municipal potable  
76 water treatment plants; and

77 WHEREAS, the DEQ permit application requires the permit applicant to submit details regarding the  
78 design of the industrial wastes treatment works, including the storage facility and land area  
79 determination, as well as characterization of the industrial wastes that includes analyses of heavy metals  
80 and other constituents; and

81 WHEREAS, the Department of Environmental Quality examines the specific processes used at the  
82 facility generating the industrial wastes to determine whether constituents may represent a threat to  
83 human health and the environment; and

84 WHEREAS, the Department of Environmental Quality requires the permit applicant to provide  
85 analyses to determine the capacity of the land application site to assimilate nutrients, metals, and any  
86 other pollutants of concern, in order to demonstrate that the activity may be performed safely and  
87 protect the environment; now, therefore, be it

88 RESOLVED by the Senate, the House of Delegates concurring, That the Virginia Institute of Marine  
89 Science and the Department of Mines, Minerals and Energy's Division of Geology and Mineral  
90 Resources' Virginia geological survey, in consultation with the United States Geological Survey's Toxic  
91 Substances Hydrology Regional Contamination Investigation Program, be requested to study the  
92 short-term and long-term effects of the storage and land application of industrial wastes and sewage  
93 sludge on public health, residential wells, and surface and ground water.

94 In conducting its study, the Virginia Institute of Marine Science and the Division of Geology and  
95 Mineral Resources shall (i) compile a comprehensive list of the contaminants and other constituents  
96 contained in biosolids and industrial wastes without the restrictions of current regulatory omissions; (ii)  
97 determine how contaminants and constituents applied to land effect surface, ground, and well water; and  
98 (iii) determine whether current testing and monitoring regulations and setback requirements are adequate  
99 to protect human health and the environment.

100 Technical assistance shall be provided to the Virginia Institute of Marine Science and the Division of  
101 Geology and Mineral Resources by the Virginia Department of Health and the Virginia Polytechnic  
102 Institute and State University's Department of Crop and Soil Environmental Sciences. All agencies of the  
103 Commonwealth shall provide assistance to the Virginia Institute of Marine Science and the Division of  
104 Geology and Mineral Resources for this study, upon request.

105 The Virginia Institute of Marine Science and the Department of Mines, Minerals and Energy's  
106 Division of Geology and Mineral Resources shall complete their joint meetings by November 30, 2015,  
107 and the Directors shall submit jointly to the Division of Legislative Automated Systems an executive  
108 summary of their findings and recommendations no later than the first day of the 2016 Regular Session  
109 of the General Assembly. The executive summary shall state whether the Virginia Institute of Marine  
110 Science and the Department of Mines, Minerals and Energy's Division of Geology and Mineral  
111 Resources intend to submit to the General Assembly and the Governor a report of their findings and  
112 recommendations for publication as a House or Senate document. The executive summary and report  
113 shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for  
114 the processing of legislative documents and reports and shall be posted on the General Assembly's  
115 website.