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SENATE BILL DRS15240-RI-19

Short Title: Coal Ash/Structural Fill Modifications.

(Public)

Sponsors: Senator Marcus (Primary Sponsor).

Referred to:

1 A BILL TO BE ENTITLED  
2 AN ACT TO MODIFY THE REQUIREMENTS FOR THE USE OF COAL COMBUSTION  
3 PRODUCTS AS STRUCTURAL FILL AND TO CONFORM THE STATE'S COAL ASH  
4 MANAGEMENT REQUIREMENTS FOR USE AS STRUCTURAL FILL TO FEDERAL  
5 STANDARDS PROMULGATED BY THE UNITED STATES ENVIRONMENTAL  
6 PROTECTION AGENCY.

7 The General Assembly of North Carolina enacts:

8 SECTION 1. Subpart 3 of Part 2I of Article 9 of Chapter 130A of the General  
9 Statutes reads as rewritten:

10 "Subpart 3. Use of Coal Combustion Products in Structural Fill.

11 "§ 130A-309.218. **Applicability.**

12 The provisions of this Subpart shall apply to the siting, design, construction, operation, and  
13 closure of projects that utilize coal combustion products for structural fill.

14 "§ 130A-309.219. **Permit requirements for projects using coal combustion products for  
15 structural fill.**

16 (a) Permit Requirements. –

17 (1) Projects using coal combustion products as structural fill involving the  
18 placement of less than ~~8,000~~ 12,400 tons of coal combustion products ~~per acre~~  
19 ~~or less than 80,000 tons of coal combustion products in total~~ per project, which  
20 proceed in compliance with the requirements of this section and rules adopted  
21 thereunder, are deemed permitted. Any person proposing such a project shall  
22 submit an application for a permit to the Department upon such form as the  
23 Department may prescribe, including, at a minimum, the information set forth  
24 in subdivision (1) of subsection (b) of this section.

25 (2) No person shall commence or operate a project using coal combustion  
26 residuals as structural fill involving the placement of ~~8,000~~ 12,400 or more  
27 tons of coal combustion products ~~per acre or 80,000 or more tons of coal~~  
28 ~~combustion products in total~~ per project without first receiving an individual  
29 permit from the Department. Any person proposing such a project shall submit  
30 an application for a permit to the Department upon such form as the  
31 Department may prescribe, including, at a minimum, the information set forth  
32 in subdivisions (1) and (2) of subsection (b) of this section.

33 (b) Information to Be Provided to the Department. – At least 60 days before initiation of  
34 a proposed project using coal combustion products as structural fill, the person proposing the  
35 project shall submit all of the following information to the Department on a form as prescribed  
36 by the Department:



- 1 (1) For projects involving placement of less than ~~8,000~~ 12,400 tons of coal  
 2 combustion products ~~per acre or less than 80,000 tons of coal combustion~~  
 3 ~~products in total~~ per project, the person shall provide, at a minimum, the  
 4 following information:  
 5 a. The description of the nature, purpose, and location of the project.  
 6 b. The estimated start and completion dates for the project.  
 7 c. An estimate of the volume of coal combustion products to be used in  
 8 the project.  
 9 d. A Toxicity Characteristic Leaching Procedure analysis from a  
 10 representative sample of each different coal combustion product's  
 11 source to be used in the project for, at a minimum, all of the following  
 12 constituents: arsenic, barium, cadmium, lead, chromium, mercury,  
 13 selenium, and silver.  
 14 e. A signed and dated statement by the owner of the land on which the  
 15 structural fill is to be placed, acknowledging and consenting to the use  
 16 of coal combustion products as structural fill on the property and  
 17 agreeing to record the fill in accordance with the requirements of  
 18 G.S. 130A-390.219 [130A-309.223].  
 19 f. The name, address, and contact information for the generator of the  
 20 coal combustion products.  
 21 g. Physical location of the project at which the coal combustion products  
 22 were generated.  
 23 h. A site plan detailing where the fill will be placed, including reference  
 24 to project siting requirements set forth in G.S. 130A-309.220(c).

- 25 (2) For projects involving placement of ~~8,000~~ 12,400 or more tons of coal  
 26 combustion products ~~per acre or 80,000 or more tons of coal combustion~~  
 27 ~~products in total~~ per project, the person shall provide all information required  
 28 pursuant to subdivision (1) of this subsection and shall provide construction  
 29 plans for the project, including a stability analysis as the Department may  
 30 require. If required by the Department, a stability analysis shall be prepared,  
 31 signed, and sealed by a professional engineer in accordance with sound  
 32 engineering practices. A construction plan shall, at a minimum, include a  
 33 groundwater monitoring system and an encapsulation liner system in  
 34 compliance with the requirements of G.S. 130A-309.220.

35 **"§ 130A-309.220. Design, construction, and siting requirements for projects using coal**  
 36 **combustion products for structural fill.**

37 ...

38 (b) Liners, Leachate Collection System, Cap, and Groundwater Monitoring System  
 39 Required for Large Structural Fills. – ~~For projects~~ Projects involving placement of ~~8,000~~ 12,400  
 40 or more tons of coal combustion products ~~per acre or 80,000 or more tons of coal combustion~~  
 41 ~~products in total~~ per project shall have an encapsulation liner system. The encapsulation liner  
 42 system shall be constructed on and around the structural fill and shall be designed to efficiently  
 43 contain, collect, and remove leachate generated by the coal combustion products, as well as  
 44 separate the coal combustion products from any exposure to surrounding environs. At a  
 45 minimum, the components of the liner system shall consist of the following:

- 46 (1) A base liner, which shall consist of one of the following designs:  
 47 a. A composite liner utilizing a compacted clay liner. This composite  
 48 liner is one liner that consists of two components: a geomembrane liner  
 49 installed above and in direct and uniform contact with a compacted  
 50 clay liner with a minimum thickness of 24 inches (0.61 m) and a

- 1 permeability of no more than  $1.0 \times 10^{-7}$  centimeters per  
2 second.
- 3 b. A composite liner utilizing a geosynthetic clay liner. This composite  
4 liner is one liner that consists of three components: a geomembrane  
5 liner installed above and in uniform contact with a geosynthetic clay  
6 liner overlying a compacted clay liner with a minimum thickness of  
7 18 inches (0.46 m) and a permeability of no more than  $1.0 \times 10^{-5}$   
8 centimeters per second.
- 9 (2) A leachate collection system, which is constructed directly above the base  
10 liner and shall be designed to effectively collect and remove leachate from the  
11 project.
- 12 (3) A cap system that is designed to minimize infiltration and erosion as follows:
- 13 a. The cap system shall be designed and constructed to (i) have a  
14 permeability less than or equal to the permeability of any base liner  
15 system or the in situ subsoils underlying the structural fill, or the  
16 permeability specified for the final cover in the effective permit, or a  
17 permeability no greater than  $1 \times 10^{-5}$  centimeters per second,  
18 whichever is less; (ii) minimize infiltration through the closed  
19 structural fill by the use of a low-permeability barrier that contains a  
20 minimum 18 inches of earthen material; and (iii) minimize erosion of  
21 the cap system and protect the low-permeability barrier from root  
22 penetration by use of an erosion layer that contains a minimum of six  
23 inches of earthen material that is capable of sustaining native plant  
24 growth.
- 25 b. The Department may approve an alternative cap system if the owner  
26 or operator can adequately demonstrate (i) the alternative cap system  
27 will achieve an equivalent or greater reduction in infiltration as the  
28 low-permeability barrier specified in sub-subdivision a. of this  
29 subdivision and (ii) the erosion layer will provide equivalent or  
30 improved protection as the erosion layer specified in sub-subdivision  
31 a. of this subdivision.
- 32 (4) A groundwater monitoring system, that shall be approved by the Department  
33 and, at a minimum, consists of all of the following:
- 34 a. A sufficient number of wells, installed at appropriate locations and  
35 depths, to yield groundwater samples from the uppermost aquifer that  
36 represent the quality of groundwater passing the relevant point of  
37 compliance as approved by the Department. A down-gradient  
38 monitoring system shall be installed at the relevant point of  
39 compliance so as to ensure detection of groundwater contamination in  
40 the uppermost aquifer.
- 41 b. A proposed monitoring plan, which shall be certified by a licensed  
42 geologist or professional engineer to be effective in providing early  
43 detection of any release of hazardous constituents from any point in a  
44 structural fill or leachate surface impoundment to the uppermost  
45 aquifer, so as to be protective of public health, safety, and welfare; the  
46 environment; and natural resources.
- 47 c. A groundwater monitoring program, which shall include consistent  
48 sampling and analysis procedures that are designed to ensure  
49 monitoring results that provide an accurate representation of  
50 groundwater quality at the background and down-gradient wells.  
51 Monitoring shall be conducted through construction and the

1 post-closure care period. The sampling procedures and frequency shall  
 2 be protective of public health, safety, and welfare; the environment;  
 3 and natural resources.

4 d. A detection monitoring program for all Appendix I constituents. For  
 5 purposes of this subdivision, the term "Appendix I" means Appendix  
 6 I to 40 C.F.R. Part 258, "Appendix I Constituents for Detection  
 7 Monitoring," including subsequent amendments and editions.

8 e. An assessment monitoring program and corrective action plan if one  
 9 or more of the constituents listed in Appendix I is detected in  
 10 exceedance of a groundwater protection standard.

11 (c) Siting for Structural Fill Facilities. – Coal combustion products used as a structural  
 12 fill shall not be placed:

13 (1) Within 50 feet of any property boundary.

14 (2) Within 300 horizontal feet of a private dwelling or well.

15 (3) Within 50 horizontal feet of the top of the bank of a perennial stream or other  
 16 surface water body.

17 (4) Within four feet of the seasonal high groundwater ~~table-table~~, except as  
 18 provided in G.S. 130A-309.220A.

19 (5) Within a 100-year floodplain except as authorized under  
 20 G.S. 143-215.54A(b). A site located in a floodplain shall not restrict the flow  
 21 of the 100-year flood, reduce the temporary water storage capacity of the  
 22 floodplain or result in washout of solid waste so as to pose a hazard to human  
 23 life, wildlife or land or water resources.

24 (6) Within 50 horizontal feet of a wetland, unless, after consideration of the  
 25 chemical and physical impact on the wetland, the United States Army Corps  
 26 of Engineers issues a permit or waiver for the fill.

27 **"§ 130A-309.220A. Specific requirements for all projects using coal combustion products**  
 28 **for structural fill placed in open pit mines.**

29 All projects that use coal combustion products for structural fill in open pit mines, without  
 30 regard to the amount of coal combustion products to be used as fill in such projects, shall be  
 31 subject to the following requirements:

32 (1) Notwithstanding G.S. 130A-309.220(c), in accordance with 40 C.F.R. §  
 33 257.60, a 5-foot separation shall be required between the base of coal  
 34 combustion products used in such projects and the uppermost aquifer, or the  
 35 applicant must demonstrate that there will not be an intermittent, recurring, or  
 36 sustained hydraulic connection between any portion of the base of the coal  
 37 combustion products used in such projects and the uppermost aquifer due to  
 38 normal fluctuations in groundwater elevations, including the seasonal high  
 39 water table. Provided, however, that despite an applicant's ability to  
 40 demonstrate lack of a hydraulic connection as provided herein, coal  
 41 combustion products shall not be placed within 4 feet of the seasonal high  
 42 groundwater table.

43 (2) Design and construction standards set forth in G.S. 130A-220(b) that require  
 44 a liner, leachate collection system, cap, and groundwater monitoring system  
 45 shall apply.

46 **"§ 130A-309.221. Financial assurance requirements for large projects using coal**  
 47 **combustion products for structural fill.**

48 (a) For projects involving placement of ~~8,000-12,400~~ or more tons of coal combustion  
 49 products ~~per acre or 80,000 or more tons of coal combustion products in total per project~~, the  
 50 applicant for a permit or a permit holder to construct or operate a structural fill shall establish  
 51 financial assurance that will ensure that sufficient funds are available for facility closure,

1 post-closure maintenance and monitoring, any corrective action that the Department may require,  
2 and to satisfy any potential liability for sudden and nonsudden accidental occurrences, and  
3 subsequent costs incurred by the Department in response to an incident at a structural fill project,  
4 even if the applicant or permit holder becomes insolvent or ceases to reside, be incorporated, do  
5 business, or maintain assets in the State.

6 ...

7 **"§ 130A-309.222. Closure of projects using coal combustion products for structural fill.**

8 (a) Closure of Structural Fill Projects. –

9 (1) No later than 30 working days or 60 calendar days, whichever is less, after  
10 coal combustion product placement has ceased, the final cover shall be applied  
11 over the coal combustion product placement area.

12 (2) The final surface of the structural fill shall be graded and provided with  
13 drainage systems that do all of the following:

14 a. Minimize erosion of cover materials.

15 b. Promote drainage of area precipitation, minimize infiltration, and  
16 prevent ponding of surface water on the structural fill.

17 (3) Other erosion control measures, such as temporary mulching, seeding, or silt  
18 barriers shall be installed to ensure no visible coal combustion product  
19 migration to adjacent properties until the beneficial end use of the project is  
20 realized.

21 (4) The constructor or operator shall submit a certification to the Department  
22 signed and sealed by a registered professional engineer or signed by the  
23 Secretary of the Department of Transportation or the Secretary's designee  
24 certifying that all requirements of this Subpart have been met. The report shall  
25 be submitted within 30 days of application of the final cover.

26 (b) Additional Closure and Post-Closure Requirements for Large Structural Fill Projects.

27 – For projects involving placement of ~~8,000~~12,400 or more tons of coal combustion products  
28 ~~per acre or 80,000 or more tons of coal combustion products in total~~ per project, a constructor or  
29 operator shall conduct post-closure care. Post-closure care shall be conducted for 30 years, which  
30 period may be increased by the Department upon a determination that a longer period is necessary  
31 to protect public health, safety, and welfare; the environment; and natural resources, or decreased  
32 upon a determination that a shorter period is sufficient to protect public health, safety, and  
33 welfare; the environment; and natural resources. Additional closure and post-closure  
34 requirements include, at a minimum, all of the following:

35 ...."

36 **SECTION 2.** This act is effective when it becomes law and applies to contracts for  
37 the use of structural fill executed on or after that date.