

February 9, 2015

Greg Luke
Division of Solid Waste Management
William R. Snodgrass Tower
312 Rosa L. Parks Avenue, 14th Floor
Nashville, TN 37243

Re: Supplemental Comments for the Record - Draft Permit, Major Permit Modification for a Solid Waste Disposal Facility - TVA Kingston, Class II Landfill, IDL 73-0211

Dear Mr. Luke:

Please accept these supplemental comments on the Major Permit Modification for the Class II Landfill for the Kingston Fossil Plant, IDL 73-0211 (“Kingston permit”), from Southern Alliance for Clean Energy, Southern Environmental Law Center, Tennessee Clean Water Network, Statewide Organizing for Community eMpowerment, the Sierra Club, Environmental Integrity Project and Earthjustice (hereinafter referred to collectively as “the Groups”). We submitted comments on this permit on December 30, 2014. At that point we had not yet reviewed the final EPA Resource Conservation and Recovery Act (RCRA) Subtitle D rule for coal ash (“EPA rule”), which was finalized on December 19.¹ Having now reviewed that rule, we wish to submit supplemental comments on the impact of the rule on the Kingston landfill.

1. Definitions

The EPA coal ash rule defines “Coal combustion residuals (CCR)” as “fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.”² The Kingston permit would authorize the disposal of “gypsum waste [a form of flue gas desulfurization material], fly ash, bottom ash, boiler slag, cinders, and clinkers generated onsite from the burning of coal and the operation of air pollution control equipment by the Tennessee Valley Authority Kingston Fossil Plant.” The Kingston permit would therefore authorize the disposal in the landfill of “coal combustion materials” as defined by the rule.

The EPA rule defines “CCR Landfill or landfill” as “an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt

¹ U.S. EPA, HAZARDOUS AND SOLID WASTE MANAGEMENT SYSTEM; DISPOSAL OF COAL COMBUSTION RESIDUALS FROM ELECTRIC UTILITIES [RIN-2050-AE81; FRL-9149-4], rulemaking docket no. EPA-HQ-RCRA-2009-0640 (prepublication version available at <http://www2.epa.gov/coalash/pre-publication-version-coal-combustion-residuals-final-rule>).

² EPA coal ash rule § 257.53.

dome formation, a salt bed formation, an underground surface mine, or a cave.”³ The landfill at issue in the Kingston permit is a CCR landfill.

The EPA rule defines “Existing CCR landfill” as “a CCR landfill that receives CCR both before and after [180 days after publication of the rule in the Federal Register], or for which construction commenced prior to [180 days after publication] and receives CCR on or after [180 days after publication].”⁴ According to the Permit Application Operations Manual, initial construction of Phase I of the landfill was completed in 2009, and Phase I has been in use since 2010.⁵ Phase I of the landfill is therefore an “Existing CCR landfill” for purposes of the EPA rule.

The EPA rule defines “Lateral expansion” as “a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after [180 days after publication],” and defines “New CCR landfill” as “a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after [180 days after publication].”⁶ The Operations Manual states that “construction of Phase II is expected to occur in 2016-2020 time frame [sic].”⁷ Phase II of the landfill will therefore be a “New CCR landfill” for purposes of the EPA rule.

In summary, the landfill is plainly subject to the EPA rule, but the two phases of the landfill will be affected differently.

2. Requirements applicable to Phase I

Phase I of the landfill, which is an “existing” landfill for purposes of the EPA rule, is subject to § 257.64 of the rule, “Unstable areas.”⁸

“Unstable area” is defined in the EPA rule as “a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.”⁹ It is undisputed that the Kingston landfill has experienced dropouts resulting in the

³ Id.

⁴ Id.

⁵ Geosyntec, Operations Manual – Coal Combustion Residuals Disposal Facility Permit Modification – Peninsula Site – Kingston Fossil Plant, 1 (June 2014) (“This Operations Manual has been prepared in support of a Part II Permit application for a modification (Permit Modification Application) to the coal-combustion residuals (CCRs) disposal facility (IDL 73-0211) located at Tennessee Valley Authority’s (TVA’s) Kingston Fossil Plant (KIF) Peninsula Site, Roane County, Tennessee.”).

⁶ EPA coal ash rule § 257.53.

⁷ Geosyntec, *supra* note 5, at 2.

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⁹ EPA rule § 257.53.

loss of gypsum material to the underlying groundwater, and that the landfill is built over karst terrain.¹⁰ The landfill location therefore meets the definition of “unstable area.”

Section 257.64 of the EPA rule prohibits existing landfills from being located in unstable areas unless owners can make a demonstration that “recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.”

For the reasons laid out in our December 30 2014 comment letter, we are convinced that TVA cannot make this showing. Phase I of the landfill is clearly built in an unstable area, and has already experienced serious structural failures; in the language of the EPA rule, the integrity of the structural components of the landfill has been disrupted. The documentation submitted by TVA to date does not adequately demonstrate that it will not happen again.

Since TVA has not, and cannot, make the showing required by the EPA rule, TDEC should reject the application and require TVA to close the landfill.

3. Requirements applicable to Phase II

As described above, for purposes of the rule, Phase II of the Kingston landfill will be a “new” landfill and a “lateral expansion” of the existing landfill. Phase II is subject to the same “unstable areas” requirements of the EPA rule described above for Phase I. Again, TVA has not and cannot make an adequate demonstration that locating the landfill in an unstable area can be done in a way that ensures that integrity of the structural components of the landfill, and TDEC must reject the application.

In addition, the EPA rule has a number of requirements for new landfills. First, the EPA rule prohibits landfills from being located within five feet of the uppermost aquifer:

New CCR landfills . . . must be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).¹¹

¹⁰ See, e.g., TVA, Kingston Fossil Plant – Gypsum Disposal Area – IDL 73-0211 – September 2012 Groundwater Monitoring Report, 6 (Nov. 21, 2012) (“[K]arst surface expression features were identified during May and June 2011 during facility repairs.”).

¹¹ EPA rule § 257.60.

The permit application materials provided by TVA show that the potentiometric head of the groundwater beneath the Phase II landfill ranges from 749.9 feet to 785 feet.¹² The base of the Phase II landfill will be at a minimum elevation of 760 feet.¹³ Most wells show a potentiometric head within five feet of the base of the Phase II landfill. Given that the true potentiometric surface of the groundwater at the Phase II landfill location is within five feet of the base of the proposed expansion, TVA has the burden of showing that there will be no hydraulic connection between the base of the landfill and the aquifer. TVA has not done this, and TDEC should therefore deny the expansion permit.

Second, the EPA rule prohibits new CCR landfills from being located in wetlands, unless owners or operators can make the demonstration laid out in section 257.61 of the rule. Phase II of the landfill is partially built in a wetland, and TVA would therefore have to make the required demonstration in order for the landfill to be in compliance with that section of the rule.

Finally, the EPA rule prohibits new landfills from being placed in seismic impact zones.¹⁴ This section allows owners and operators to place landfills in seismic impact areas if they make certain specific demonstrations laid out in the rule. Since the new landfill will be in a seismic impact zone,¹⁵ it is incumbent on TDEC to ensure that TVA has met the criteria for such demonstration.

4. Timing

The requirements of the EPA rule are each accompanied by timelines for compliance. For example, section 257.60 allows owners and operators 42 months from the date of publication in the federal register to show that there is no hydraulic connection between the base of a coal ash unit and the uppermost aquifer. If TDEC waited this long to impose the requirements of the EPA rule, TVA would likely find itself in the position of having a non-compliant landfill full of waste. A far preferable path forward would be for TDEC to prospectively ensure that the landfill will comply with the EPA rule, reject the application if it does not comply, and require TVA to reapply for a compliant landfill.

5. Conclusion

As stated in our earlier letter, we believe that the Kingston landfill does not comply with Tennessee law. In addition, for the reasons laid out above, we believe that the landfill does not comply with the new federal rule applicable to coal ash landfills. TDEC must therefore reject

¹² Geosyntec, *supra* note 5, at pdf page 61: “Phase I and Phase II Cross Sections.”

¹³ *Id.* at 30 (“The lowest design subgrade elevations for Phase IB and Phase II areas are 755 and 760 ft mean sea level (MSL).”)

¹⁴ EPA rule at § 257.63.

¹⁵ See, e.g., Geosyntec, *supra* note 5, at 10 (“The Site lies within a seismic impact zone.”).

the current application and require TVA to propose a solution to its coal ash disposal problem that complies with state and federal law.

Respectfully,

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