

September 10, 2012

Commissioner Robert Martineau, Jr.
Tennessee Department of Environment and Conservation
L & C Tower
401 Church Street
Nashville, Tennessee 37243

Re: Section 113(h) complaint regarding unpermitted solid waste storage at the Tennessee Valley Authority Allen Fossil Plant

Dear Commissioner Martineau:

Pursuant to Tenn. Code Ann. § 68-211-113(h), we are writing to inform you of an ongoing violation of the Tennessee Solid Waste Disposal Act (“TSWDA” or “Act”) at the Tennessee Valley Authority’s (“TVA”) Allen Fossil Plant (“Allen”). We appreciate the opportunity to submit this letter for your consideration and look forward to TDEC’s prompt resolution of this matter.

According to TVA contractor Stantec Consulting Services’ (“Stantec”) June 24, 2009 Report of Phase 1 Facility Assessment, as confirmed recently by TVA, Allen’s coal ash complex includes an inactive impoundment. Unlike active impoundments subject to point source discharge permits, inactive units are not exempt from solid waste permitting. Based on our inquiries to TDEC and TVA, and our search of TDEC’s permit database, it is apparent that TVA does not hold a solid waste permit for the inactive West Ash Pond at Allen. Without a permit for the West Ash Pond TVA is in violation of the TSWDA.

I. BACKGROUND

Following the collapse of the Kingston Fossil Plant ash impoundment in 2008, TVA committed to converting all of its wet ash and gypsum storage to dry storage.¹ TVA has identified over 30 coal ash facilities at its Tennessee coal plants alone.² Approximately 19 of these facilities are active wet impoundments.³ While TVA is faced with a complex conversion project estimated to cost at least \$1.5 billion,⁴ TDEC is also faced with the challenging task of managing the regulatory process for the conversion and assuring that public health and the environment are fully protected through statutorily mandated permits.

¹ Tennessee Valley Authority, Fact Sheet, “TVA’s Conversion of Wet Ash and Gypsum to Dry Storage,” Dec. 16, 2009, *available at* http://www.tva.gov/news/kingston/dry_ash.pdf.

² Stantec Consulting Services, Inc., Report of Phase 1 Facility Assessment, Coal Combustion Product Impoundments and Disposal Facilities, Appendices B-I, June 24, 2009 (*hereinafter* “Stantec”).

³ *Id.*

⁴ Tennessee Valley Authority, Fact Sheet, “TVA’s Conversion of Wet Ash and Gypsum to Dry Storage,” Dec. 16, 2009, *available at* http://www.tva.gov/news/kingston/dry_ash.pdf.

1.866.522.SACE
www.cleanenergy.org

P.O. Box 1842
Knoxville, TN 37901
865.637.6055

34 Wall Street, Suite 607
Asheville, NC 28801
828.254.6776

250 Arizona Avenue, NE
Atlanta, GA 30307
404.373.5832

P.O. Box 8282
Savannah, GA 31412
912.201.0354

P.O. Box 1833
Pittsboro, NC 27312
919.360.2492

P.O. Box 50451
Jacksonville FL 32240
904.710.5538

TDEC's role in this process should not be underestimated. Though addressing the threat of catastrophic collapse became a priority after the Kingston disaster, the more subtle danger of chronic, lower-volume water contamination is a substantial and persistent concern. Coal ash slurry is the second largest industrial waste stream in the United States with 136 million tons generated each year.⁵ TVA ponds in Tennessee have the capacity to hold over 17.5 billion gallons of ash⁶ in impoundments that sit over aquifers used for drinking water or on the banks of the Tennessee, Cumberland, Mississippi, Clinch, Holston and Emory Rivers.

Coal ash facilities at every operating plant in Tennessee have documented cases of water contamination.⁷ The pollutants released from coal ash facilities that contaminate Tennessee's water include arsenic, manganese, calcium, aluminum, iron, boron, molybdenum, sulfate, selenium, chloride, beryllium, cadmium, chromium, cobalt, lead and mercury.⁸ These pollutants have potential health impacts ranging from cancer to brain damage.⁹

TDEC has the duty to enforce its solid waste laws to reduce the impacts of water contamination. The importance of this responsibility will only grow as TVA's conversion plans advance. TDEC must take action now to assure that previously closed impoundments, such as the Allen West Ash Pond, have the proper permits and operate in accordance with these permits.

II. JURISDICTION

The Southern Alliance for Clean Energy, Tennessee Clean Water Network, Tennessee Chapter of the Sierra Club, Earthjustice, and Environmental Integrity Project are submitting this complaint pursuant to Tenn. Code Ann. § 68-211-113(h).

Tenn. Code Ann. § 68-211-113(h) provides that “[a]ny person may file with the commissioner a signed complaint against any person allegedly violating any provisions of” the TSWDA.” This Section further provides that “[u]nless the commissioner determines that such complaint is duplicitous or frivolous, the commissioner shall immediately serve a copy of it upon the person or persons named” and “promptly investigate the allegations” and “the commissioner shall notify

⁵ United States Environmental Protection Agency, *Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities*, Proposed Rule, 75 Fed. Reg. 35128, 35151 (Jun. 21, 2010).

⁶ United States Environmental Protection Agency, Information Request Responses from Electric Utilities, 2009 available at <http://www.epa.gov/osw/nonhaz/industrial/special/fossil/surveys>.

⁷ Environmental Integrity Project, “Risky Business: Coal Ash Threatens America’s Groundwater Resources at 19 More Sites”, Dec 12, 2011; Environmental Integrity Project, “Toxic Waters Run Deep: Coal ash Open Dumps Still Open for Business?”, Jun. 23, 2011; Environmental Integrity Project *et. al.*, “In Harm’s Way: Lack of Federal Coal Ash Regulations Endangers Americans And Their Environment”, Aug. 26, 2010; Environmental Integrity Project *et. al.*, “Out of Control: Mounting Damages from Coal Ash Waste Sites”, Feb. 24, 2010; United States Environmental Protection Agency, *Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities*, Proposed Rule, 75 Fed. Reg. 35128 (Jun. 21, 2010); United States Environmental Protection Agency, Coal Combustion Waste Damage Case Assessments, Jul. 9, 2007.

⁸ *Id.*

⁹ United States Environmental Protection Agency, *Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities*, Proposed Rule, 75 Fed. Reg. 35128, 35169 (Jun. 21, 2010).

the complainant of such commissioner's action or determination within ninety (90) days from the date of such commissioner's receipt of the written complaint."

III. LEGAL BACKGROUND

The Tennessee Solid Waste Disposal Act became law in 1969 "[i]n order to protect the public health, safety and welfare, prevent the spread of disease and creation of nuisances, conserve [Tennessee's] natural resources, enhance the beauty and quality of [Tennessee's] environment and provide a coordinated statewide solid waste disposal program...."¹⁰ To that end, the Act requires TDEC to "regulate solid waste disposal to" among other things, "[p]rovide for safe and sanitary processing and disposal of solid waste."¹¹

To achieve the policy of the Act the law requires TDEC to register and permit solid waste disposal facilities.¹² The Act defines "solid waste disposal" as "the process of permanently or indefinitely placing, confining, compacting or covering solid waste."¹³

Coal ash is a solid waste. The definition of solid waste includes "byproducts" such as coal ash, which is a byproduct of burning coal for electricity, "discarded materials...resulting from industrial...operations" and most directly "ash."¹⁴ The Act establishes specific requirements for permitting coal ash disposal facilities.¹⁵

None of the exemptions from the statutory definition of "solid waste" and the permitting requirements of the TSWDA apply to inactive coal ash impoundments.¹⁶ The Act states that "[s]olid waste does not include...solid or dissolved materials in...industrial discharges that are point sources subject to [National Pollution Discharge Elimination System ("NPDES")] permits under § 402 of the Federal Water Pollution Control Act (compiled at 33 U.S.C. § 1342)."¹⁷ Although some inactive ponds, including Allen's West Ash Pond, are addressed in NPDES permits, the exemption is explicitly limited to "industrial discharges" and not the broader solid waste disposal facility. In other words, a discharge through a NPDES-permitted outfall may be exempt, but an inactive facility is not.

¹⁰ Tenn. Code Ann. § 68-211-102(a).

¹¹ *Id.*

¹² Tenn. Code Ann. § 68-211-106(a).

¹³ Tenn. Code Ann. § 68-211-103(9).

¹⁴ *Id.* at 103(8).

¹⁵ Tenn. Code Ann. § 68-211-106(j).

¹⁶ See Letter from Paul Sloan, TDEC, Deputy Commissioner, to Josh Galperin, Southern Alliance for Clean Energy, Policy Analyst and Research Attorney and Kimberly Wilson, Environmental Integrity Project, Attorney, 3 (Sept. 7, 2010) ("As previously indicated, TDEC regulates solid waste disposal units under solid waste rules found at 1200-01-07 and wastewater treatment units under NPDES permitting rules found at 1200-04-05. The Division of Solid Waste is the lead agency for solid waste disposal units containing CCW. *That would include impoundments formerly used for wastewater treatment that contain CCW and no longer provide treatment or discharge process wastewater.*") (Emphasis added); Letter from Robert J. Martineau, Jr., TDEC, Commissioner, to Joshua Galperin, Southern Alliance for Clean Energy, Policy Analyst and Research Attorney, 1 (Apr. 23, 2012) ("Industrial and municipal wastewater treatment plants, such as TVA ash ponds, are not subject to solid waste permitting process... When the ash pond is converted from a wastewater treatment unit to a solid waste management unit, oversight will be transferred to Solid Waste Management.")

¹⁷ Tenn. Code Ann. § 68-211-103(8).

Regulatory exemptions to solid waste permitting also do not apply to inactive impoundments. The rules promulgated pursuant to the TSWDA state that “[p]rocessing of industrial wastewaters in on-site facilities subject to regulation under *T.C.A. §69-3-101 et seq.*” are not subject to permitting requirements.¹⁸ This exemption does not apply to inactive facilities. By definition an *inactive* facility is not “processing industrial wastewaters,” instead it merely stores waste previously disposed.

TDEC has repeatedly confirmed this plain reading of the Act and regulations, acknowledging that when an ash pond becomes inactive it is no longer treating or processing wastewater and is therefore a solid waste disposal unit.¹⁹

IV. FACTUAL BACKGROUND

The Allen Fossil Plant is located on Lake McKellar, on the eastern shore of the Mississippi River in Memphis, Tennessee.²⁰ Allen began operation in 1959.²¹ The plant consists of three coal generating units, each with a generating capacity of 330 megawatts.²² Allen produces approximately 195,000 tons of fly ash and boiler slag each year.²³ All of this ash is sluiced to the active East Ash Pond.²⁴ In addition to the East Ash Pond, Allen’s ash complex also includes an East Ash Stilling Pond and the inactive West Ash Pond.²⁵

The 23-acre West Ash Pond served as the original fly ash pond for Allen.²⁶ TVA discontinued use of this pond from 1978 through 1991.²⁷ In 1991, TVA reactivated the West Ash Pond but closed it permanently in October 1992.²⁸ At that time TVA pumped all water from the pond, leaving only settled ash behind.²⁹ Today the West Ash Pond has no free water and acts only as a landfill for the coal ash waste.³⁰

Despite acting as a solid waste disposal unit, the West Ash Pond does not have a solid waste permit.³¹ Allen’s current NPDES permit does include provisions for an Outfall 002, which is a discharge point from the West Ash Pond for ash transport water and other wastes only during interim rerouting periods.³² On the apparently rare occasions when there are discharges to Outfall

¹⁸ Tenn. Comp. R. & Regs. 1200-01-07-.02(1)(b)(3)(x).

¹⁹ See, Note 17, *supra*.

²⁰ Stantec, *supra*, Note 2 at Appendix B, 2.

²¹ Energy Information Agency, Form 860, 2010.

²² *Id.*

²³ Stantec, *supra*, Note 2 at Appendix B, 1.

²⁴ *Id.*

²⁵ *Id.* at 2.

²⁶ *Id.* at West Ash Pond 1.

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.* See also Letter from Denise Smith, TVA, FOIA Officer to Josh Galperin, Southern Alliance for Clean Energy, 1 (May 8, 2012) (“Ash is the only material stored in the west ash pond.”).

³⁰ Stantec, *supra*, Note 2 at Appendix B, West Ash Pond 1.

³¹ See Letter from Denise Smith, TVA, FOIA Officer to Josh Galperin, Southern Alliance for Clean Energy, 1 (May 8, 2012) (“there is no solid waste permit for the west ash pond.”).

³² TDEC, Final NPDES permit No. TN0005355, Allen Fossil Plant, 2 (Nov. 30, 2007).

002, the West Ash Pond does not provide any treatment or processing and according to the current NPDES permit there was not a single reported discharge from Outfall 002 during the previous permit cycle.³³

TVA has implicated the West Ash Pond in both ground- and surface-water contamination. TVA has voluntarily undertaken groundwater monitoring at Allen.³⁴ In its 2008 Groundwater Monitoring Report, TVA identified levels of arsenic in monitoring well P2 that matched the federal Maximum Contaminant Level of 10 µg/L.³⁵ These high levels of arsenic have been consistent since 1998.³⁶ TVA reasoned that the high levels of arsenic were “likely due to contamination associated with ash leachate from the inactive West Ash Pond.”³⁷ TVA further noted that groundwater levels under the facility are dependent on levels in Lake McKellar and the Mississippi River, “which suggests,” according to TVA, “a strong communication between groundwater under the site and nearby surface water,”³⁸ indicating that groundwater arsenic contamination from the West Ash Pond is also reaching the surface water.

Today a chemical pond is located in the northeast corner of the West Ash Pond and another section, representing approximately 25% of the pond area is used as a staging area for Reed Minerals (now Harsco Minerals).³⁹

V. VIOLATIONS

By transitioning the West Ash Pond to dry storage and maintaining that facility without registering with and obtaining a permit from TDEC, the Tennessee Valley Authority is in violation of the Tennessee Solid Waste Disposal Act and its regulations, which require a permit for solid waste storage.⁴⁰

VI. REQUESTED ACTION

The Department must promptly investigate these allegations and direct TVA to either apply for a solid waste permit or to excavate and remediate the West Ash Pond so it no longer functions as a solid waste disposal area. The TSWDA prohibits TDEC from issuing a solid waste permit for the West Ash Pond without, at a minimum, a liner and a final cap, suggesting that excavation, transport to a permitted facility and remediation is likely the only practicable resolution.

A recent amendment to the Act states “the commissioner shall not issue a permit under this section for the disposal of coal ash or for expansions of an existing coal ash disposal facility

³³ See *id.* at R-7.

³⁴ See generally, Tennessee Valley Authority, Groundwater Monitoring Report February 2008 for Allen Fossil Plant, (Aug. 22, 2008).

³⁵ *Id.* at 2.

³⁶ *Id.*

³⁷ *Id.* at 7.

³⁸ *Id.* at 4.

³⁹ Stantec, *supra* Note 2 at Appendix B, West Ash Pond 3.

⁴⁰ See Tenn. Code Ann. § 68-211-106(a); Tenn. Comp. R. & Regs. § 1200-01-07-.02(1)(b)(1). See also Tenn. Code Ann. § 68-211-104 (“It is unlawful to: ... (3) Construct, alter, or operate a solid waste processing or disposal facility or site in violation of the rules, regulations or orders of the commissioner”).

unless the plans for the disposal facility include a liner and a final cap.”⁴¹ The West Ash Pond is currently unlined.⁴² Because the Department cannot permit unlined ash landfills, TDEC must order TVA to either excavate, then line and cap the facility or remove all waste from the unpermitted facility and dispose of it in a properly permitted facility elsewhere.

TDEC must also require TVA to establish a groundwater monitoring program at the West Ash Pond.⁴³ TVA is currently in flux between a groundwater monitoring program that led to voluntary reporting every two years at the West Ash Pond⁴⁴ and a voluntary monitoring program established by the Utility Solid Waste Activity Group (“USWAG”).⁴⁵ As evidenced by the inclusion of monitoring around the West Ash Pond (well P2) in the February 2008 groundwater monitoring report, TVA monitored and evaluated the impacts of the waste stored in that pond. However, the USWAG voluntary program only suggests that TVA voluntarily monitor groundwater under active ponds.⁴⁶ Under the USWAG program, therefore, TVA may cease monitoring the West Ash Pond at any time. Given TVA’s admission of existing groundwater contamination from waste stored in the West Ash Pond,⁴⁷ TDEC must enforce mandatory monitoring and reporting around the West Ash Pond. TDEC can and should establish this monitoring program regardless of whether a solid waste permit is appropriate for the West Ash Pond.⁴⁸

VII. CONCLUSION

TDEC must take action to address the unpermitted West Ash Pond disposal facility at the Allen Fossil Plant. This pond has been inactive for nearly 20 years without the solid waste permit that is clearly mandated by the TSWDA. To address this longstanding violation TDEC should require TVA to excavate the Pond, remediate the facility with a particular regard to the known groundwater contamination, and dispose of the excavated waste in a permitted facility.

Proper treatment of inactive ash ponds should be a high priority for the State. Peak human exposure to migrating groundwater contaminants, like the high arsenic around the West Ash

⁴¹ Tenn. Code Ann. § 68-211-106(j).

⁴² See Stantec, *supra* Note 2 at Appendix B, West Ash Pond 2 (noting historic seepage problems).

⁴³ Tenn. Code Ann. § 68-211-107(c) (“The department shall require all solid waste disposal facilities to have a groundwater monitoring program and report sampling results to the department at least once each year.”).

⁴⁴ See e.g., Tennessee Valley Authority, Groundwater Monitoring Report February 2008 for Allen Fossil Plant, (Aug. 22, 2008); Tennessee Valley Authority Office of the Inspector General, Inspection Report, TVA’s Groundwater Monitoring at Coal Combustion Products Disposal Areas, Inspection 2009-12991, 4 (Jun. 21, 2011) (“Through 2010, TVA has been conducting groundwater monitoring related to CCP disposal areas only when required by permit or other state requirements, with the exception of voluntary biannual monitoring at Allen Fossil Plant.”).

⁴⁵ Inspector General, Inspection Report, TVA’s Groundwater Monitoring at Coal Combustion Products Disposal Areas, Inspection 2009-12991, 12 (Jun. 21, 2011).

⁴⁶ *Id.* at Appendix D, 4.

⁴⁷ Tennessee Valley Authority, Groundwater Monitoring Report February 2008 for Allen Fossil Plant, 7 (Aug. 22, 2008)

⁴⁸ See Tenn. Code Ann. § 68-211-107(c) (requiring groundwater monitoring at “all solid waste disposal facilities” without regard to whether the facility is permitted).

Pond, is unlikely to occur until 70 or more years following commencement of ash disposal.⁴⁹ As TVA prepares to close perhaps dozens of wet facilities across the Tennessee, the Department must be cognizant and vigilant about proper permitting and monitoring.

Sincerely,

Angela Garrone
Southeast Energy Associate
Southern Alliance for Clean Energy
PO Box 1842
Knoxville, TN 37901
(865) 637-6055 x23
angela@cleanenergy.org

Stephanie Matheny
Staff Attorney
Tennessee Clean Water Network
P.O. Box 1521
Knoxville, TN 37901
(865) 522-7007 x102
stephanie@tcwn.org

Abigail Dillen
Staff Attorney
Earthjustice
156 William Street, Suite 800
New York, NY 10038
(212) 791-1881 x221
adillen@earthjustice.org

Abel Russ
Attorney
Environmental Integrity Project
One Thomas Circle, Suite 900
Washington, DC 20005
(202) 263-4453
aruss@environmentalintegrity.org

⁴⁹ United States Environmental Protection Agency, Human and Ecological Risk Assessment of Coal Combustion Waste, 4-11, Table 4-7 (Apr. 2010, Draft) *available at* <http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480ae5d04>.

Keven Routon
Vice Chair
Tennessee Chapter Sierra Club
3340 Perimeter Hill Drive
Nashville, TN 37211-4123
(901) 485-3960
kwrats@me.com

cc:

Shari Meghreblian, Assistant Commissioner
Tenn. Dept. of Environment and Conservation
6th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1534

Sandra Dudley, Director
Division of Water Resources
Tenn. Dept. of Environment and Conservation
6th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1534

Mike Apple, Director
Division of Solid Waste Management
Tenn. Dept. of Environment and Conservation
5th Floor, L&C Tower
Nashville, TN 37243

John Kammeyer
Vice President, CCP Projects and Engineering
Tennessee Valley Authority
1101 Market Street
Chattanooga, TN 37402