



1000 Vermont Avenue, NW
Suite 1100
Washington, DC 20005
Main: 202-296-8800
Fax: 202-296-8822
www.environmentalintegrity.org

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Via Electronic Mail and First-Class Mail

Ms. Lori Devereux
Director, Division Water and Waste Management Permitting Section
West Virginia DEP
601 57th Street SE
Charleston, WV 25304-2345
Lori.K.Devereux@wv.gov

RE: Comments of the Little Blue Regional Action Group, the Ohio Organizing Collaborative, and the Environmental Integrity Project on Draft NPDES Permit WV0117021 for Discharges from FirstEnergy's Little Blue Run Impoundment

Dear Ms. Devereux:

The Little Blue Regional Action Group (“LBRAG”), the Ohio Organizing Collaborative (“OOC”), and the Environmental Integrity Project (“EIP”) (together, “Commenters”) submit these comments on the West Virginia Department of Environmental Protection’s (“WV DEP”) Draft National Pollution Discharge Elimination System (“NPDES”) Permit Number WV0117021 (“Draft Permit”) to discharge untreated stormwater and seepage impacted by FirstEnergy Generation LLC’s (“FirstEnergy”) Little Blue Run Coal Ash Disposal Impoundment (“the Impoundment” or “Little Blue Run Impoundment”) into the Ohio River, Mark’s Run, and tributaries thereto.¹ Commenters respectfully urge that WV DEP significantly revise the Draft Permit as outlined below prior to issuance in order to protect public health and the environment from exposure to toxic coal combustion waste (“coal ash,” “CCR,” or “CCW”) pollutants being released from the Impoundment and in order to comply with the requirements of the federal Clean Water Act² and state law.

Per an email from Yogesh Patel, Assistant Director, Division of Water and Waste Management, WV DEP to Lisa Hallowell, Environmental Integrity Project, the Agency extended the comment period to July 17th, 2015. These comments are therefore timely.³

As detailed below, WV DEP’s Draft Permit must be revised because it fails to comply with federal and state laws in several ways, including the following:

¹ WV DEP, Draft NPDES Permit No. WV0117021 for the FirstEnergy Generation LLC Little Blue Run Impoundment (Apr. 22, 2015) [hereinafter “2015 Draft NPDES Permit” or “Draft Permit”].

² Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq. [hereinafter “Clean Water Act” or “CWA”].

³ Email from Yogesh Patel, Assistant Director, Division of Water and Waste Management, WV DEP, to Lisa Hallowell, EIP (June 25, 2015) (stating “Agency will accept comment until July 17th, 2015”).

- WV DEP’s Draft Permit dangerously approves unlimited discharges of untreated wastewaters impacted by the Little Blue Run Impoundment from all outfalls for two years with no justification for why the limits cannot be achieved upon permit issuance, placing public health at risk and failing to protect the Ohio River and its tributaries from the known toxic constituents in these discharges.
- WV DEP failed to set technology-based limits that reflect the best available technology economically achievable (“BAT”), in violation of the Clean Water Act and state law.

Factual Background

Commenters

LBRAG is a 501(c)(3) organization formed by residents of Hancock County, West Virginia, Greene Township, Pennsylvania, and Columbiana County, Ohio concerned about the impacts of pollution in their community from FirstEnergy’s Little Blue Run Coal Ash Impoundment – the nation’s largest coal ash impoundment. LBRAG is dedicated to protecting the health, economic viability, and well-being of the local community by the educating the public about the dangers of coal ash pollution and remediating and preventing the further contamination of these waters on behalf of its members. LBRAG has about 150 members, almost all of whom who live and/or recreate in the three-state area near the Little Blue Run Impoundment.

OOC is an Ohio-based organization formed in 2007 that unites community organizing groups, labor unions, faith organizations, and policy institutes across Ohio. The vision of OOC is to organize everyday Ohioans to build a transformative base of power for the purpose of achieving social, racial and economic justice in Ohio. OOC members rely on the Ohio River for drinking water and recreation, among other things, and OOC has been working with LBRAG and EIP to address and prevent pollution of the Ohio River from the Little Blue Run Impoundment.

EIP is a nonprofit, nonpartisan organization established to advocate for more effective enforcement of environmental laws, specifically those standards that protect our air and water from pollution from the coal and utility industries and other large pollution sources. EIP has been actively engaged in working to cleanup and prevent additional pollution from Little Blue for many years.

The Little Blue Run Impoundment

The Little Blue Run Impoundment has already been releasing a toxic soup of pollutants into ground and surface waters at levels high enough to endanger health and the environment. In 2012, EIP, on behalf of LBRAG, sent a 60-day notice of intent to sue FirstEnergy for pollution from the impoundment in 2012⁴ that resulted in the Pennsylvania Department of Environmental Protection (“PA DEP”) filing—on the 59th day following LBRAG’s notice—its own lawsuit in federal court against FirstEnergy. PA DEP’s allegations included that releases from the

⁴ Letter from Lisa Hallowell, Envntl. Integrity Project, et al., to Anthony J. Alexander, President, FirstEnergy, Re: Notice of Intent to Sue FirstEnergy for Violations at the Little Blue Run Coal Ash Impoundment (May 30, 2012) [hereinafter “2012 LBRAG NOI”].

Impoundment “may present an imminent and substantial endangerment to health or the environment.”⁵ PA DEP’s lawsuit ended in a settlement that requires that the Impoundment cease receiving waste by December 2016 and a Consent Decree with PA DEP for ongoing monitoring and cleanup of releases from the Impoundment.⁶

In addition, the U.S. Environmental Protection Agency (“EPA”) recently confirmed that Little Blue is one of 40 confirmed “proven” coal ash damage cases, based on documented evidence of damage to health or the environment due to pollutants travelling off-site at levels that exceed those set to protect public health.⁷

The Impoundment must cease receiving waste by 2016 and is subject to the terms of the 2012 Consent Decree and a variety of closure requirements, and it continues to operate pursuant to existing permits issued by the PA DEP, including NPDES Permit No. PA0027481 and Solid Waste Permit No. 300558. FirstEnergy’s Pennsylvania NPDES Permit, PA0027481, expired on November 30, 2011, more than 3.5 years ago, and has been administratively extended.

FirstEnergy has been illegally discharging wastewaters impacted by the impoundment without a permit through seeps and springs that flow into the Ohio River and tributaries thereto. With this action, WV DEP is proposing to allow FirstEnergy to continue these discharges of untreated coal ash wastewaters laden with toxic pollutants into the Ohio River from fourteen different points into the Ohio River and various small tributaries. Both the WV DEP and FirstEnergy admit that the discharges being permitted are impacted by the Little Blue Run Impoundment; WV DEP’s Fact Sheet states that “[t]his permit will authorize the impacted discharges from the impoundment as designated NPDES Outlets,”⁸ and FirstEnergy’s application materials also state that this application was to “permit the discharge from several springs and seeps located in West Virginia that are impacted by the Little Blue Run Disposal Impoundment.”⁹

The Ohio River is a drinking water source for over three million people, and about 25 million people live in the Ohio River Basin.¹⁰ Any addition of pollutants into this important water body or its fragile tributaries without appropriate regulatory controls could threaten the health and wellbeing of the many communities and aquatic organisms that rely upon it.

⁵ Commonwealth of Pa. Dep’t Env’tl. Prot. v. FirstEnergy, Civil Action No. 2:12-cv-01061-NBF (July 27, 2012) [hereinafter “2012 DEP Federal Lawsuit”].

⁶ Consent Decree, Commonwealth of Pa. Dep’t Env’tl. Prot. v. FirstEnergy, Civil Action No. 2:12-cv-01061-NBF, at 12 (Dec. 14, 2012) [hereinafter “2012 Consent Decree”].

⁷ Alexander Livnat, U.S. Environmental Protection Agency, CCR Damage Case Database, Technical Support Document on Damage Cases, Docket #EPA-HQ-RCRA-2009-0640 (Dec. 18, 2014) (Document No. EPA-HQ-RCRA-2009-0640-12123) [hereinafter “2014 EPA Confirmed Damage Cases”]. See also See Environmental Integrity Project, Earthjustice, and Sierra Club, *In Harm’s Way: Lack of Federal Coal Ash Regulations Endangers Americans and Their Environment* (Aug. 26, 2010), http://www.environmentalintegrity.org/news_reports/documents/INHARMSWAY_FINAL3.pdf [hereinafter *In Harm’s Way*].

⁸ WV DEP, Div. Water and Waste Mgmt., Fact Sheet, State NPDES Application No. WV0117021, for FirstEnergy Generation LLC LBR, at 2 (Apr. 27, 2015) [hereinafter “2015 Draft Permit Fact Sheet”].

⁹ Letter from Raymond Evans, Vice President, Environmental, FirstEnergy, to Scott Mandirola, Permitting and Engineering Branch, WV DEP, at 1 (Jan. 2014).

¹⁰ Ohio River Foundation, “Ohio River Facts,” www.ohioriverfdn.org/education/ohio_river_facts/ (last accessed July 15, 2015).

Substantive Comments

I. WV DEP's proposed approval of unlimited discharges toxic pollutants for two years will endanger health and the environment.

WV DEP's proposal to allow FirstEnergy to discharge toxic metals at unlimited amounts for two full years could result in serious threats to health and the environment given the known high concentrations of pollutants in these discharges, and FirstEnergy's failure to state in the application what treatment technology will be used to achieve effluent limitations violates federal and state pollution law requirements. The Draft Permit proposes a 24-month grace period during which FirstEnergy would not have any applicable numeric limits on its discharges for any metals and many other pollutants from any of the 14 proposed outfalls. During these months, WV DEP would only impose a "monitor only" requirement. The 2 year grace period is unlawful, and it will permit dangerous levels of known toxic and other deleterious pollutants to be released into tributaries of the Ohio River. The WV DEP states:

As it is the agency's policy that permittees be afforded two years to achieve compliance with final effluent limitations, the permit writer proposes that the permittee be afforded two years to achieve compliance with final effluent limitations for Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chloride, Copper, Cyanide, Fluoride, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Thallium, and Zinc. It is the permit writer's judgment that two years should be sufficient time for the permittee to achieve compliance with final effluent limitations by either routing effluent back to the Little Blue Run Impoundment or routing it directly into the Ohio River which should enable compliance through the granting of a mixing zone.¹¹

However, WV DEP fails to cite any authority for this "policy" or provide a single reason why FirstEnergy—which is not a new discharger but has been illegally discharging pollutants through these 14 seeps and springs without a permit already—cannot achieve compliance immediately upon issuance of the permit. This is especially true for discharges from Outfalls 003 and 004, which already discharge directly into the Ohio River; if compliance is purportedly to be achieved by routing discharges to the Ohio River and these discharges already flow there directly,¹² no interim limits are warranted or should be allowed.

Furthermore, while the Fact Sheet states that 17 pollutants will be given a two year compliance window during which no effluent limitations would apply, this free pass to pollute extends to more pollutants than those listed in the fact sheet, as there are also similar "report only" interim limits for two years for hexavalent chromium, barium, and silver at certain outfalls, bringing the total number of pollutants for which there are numeric limits that are waived at at least one outfall for two full years to 20.

Allowing untreated discharges of waters impacted by the Little Blue Run Impoundment to continue for two years without any limits on 20 coal ash constituents of concern from 14

¹¹ 2015 Draft Permit Fact Sheet, at 4.

¹² *See, e.g. id.*

different discharge points will result in the release of these toxic pollutants into waterways because these pollutants are already known to be present in these discharges. With the sole exception of beryllium, every other pollutant was labeled “believed present” by FirstEnergy in the discharges from at least one outfall, with varying concentration levels by outfall.¹³

And, these are the very same pollutants already contributing to degradation of ground and surface waters at the Impoundment, as evidenced by the extensive reporting of pollution by EIP and other environmental groups in a 2010 report on coal ash damage cases,¹⁴ in the Notice of Intent to Sue letter sent by LBRAG in 2012,¹⁵ the subsequent lawsuit filed by the PA DEP in 2012,¹⁶ and EPA’s December 2014 confirmation of coal ash damage cases.¹⁷ EPA confirmed, for example, that FirstEnergy’s Little Blue Run Impoundment is a “proven damage case” due to confirmed exceedances of:

- MCLs for **arsenic, cadmium, lead, fluoride, and barium** in on- and off-site groundwater;
- Secondary MCLs (“SMCLs”) for **boron, chloride, sulfate, iron, manganese, sodium, aluminum, pH, total dissolved solids, and total suspended solids** in on- and off-site groundwater;
- Pennsylvania’s Water Quality Criteria (“WQC”) for **arsenic, antimony, cadmium, hexavalent chromium, lead, and thallium** in surface waters;
- Pennsylvania’s chronic water quality standards for **selenium and boron** in surface waters; and
- Health advisory limits for **molybdenum** in surface waters.¹⁸

Furthermore, these pollutants have all been associated with deleterious effects to health and/or the environment, meaning the unbridled release of these pollutants into small named and unnamed tributaries of the Ohio River can result in harm to wildlife or health. *See* Table 1 for examples of known health impacts from some of these pollutants.

¹³ *See* FirstEnergy, Application for WV NPDES Industrial Permit WV0117021 (Mar. 4, 2013), *available at* <https://apps.dep.wv.gov/webapp/dep/securearea/Application/Templates/GenericMenu.cfm> (to access the application, open Internet Explorer, go to dep.wv.gov, click on “Electronic Submission System”, then “Query” (under “Public”), then enter FirstEnergy and click on WV0117021).

¹⁴ *See In Harm’s Way*.

¹⁵ *See* 2012 LBRAG NOI.

¹⁶ *See* 2012 PA DEP Federal Lawsuit.

¹⁷ *See* 2014 EPA Confirmed Damage Cases.

¹⁸ *Id.*

Table 1. Health Impacts from Select Coal Ash Pollutants¹⁹

POLLUTANT	HEALTH IMPACTS
Arsenic	“Some people who drink water containing arsenic well in excess of the MCL for many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.”
Boron	“Breathing moderate levels of boron irritates the nose, throat, and eyes. Ingestion of large amounts of boron can result in damage to the stomach, intestines, liver, kidney, and brain.”
Cadmium	“Breathing high levels of cadmium can severely damage the lungs. . . . Long-term exposure to lower levels of cadmium in air, food, or water leads to a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. . . . The EPA determined that cadmium is a probable human carcinogen (group B1).”
Chromium (Hexavalent)	“Breathing high levels of chromium(VI) can cause irritation to the lining of the nose, nose ulcers, runny nose, and breathing problems, such as asthma, cough, shortness of breath, or wheezing. . . . Sperm damage and damage to the male reproductive system have also been seen in laboratory animals exposed to chromium(VI). Skin contact with certain chromium (VI) compounds can cause skin ulcers. . . . the EPA have determined that chromium(VI) compounds are known human carcinogens.”
Selenium	“Some people who drink water containing selenium well in excess of the maximum contaminant level (MCL) for many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.”
Thallium	“Exposure to high levels of thallium can result in harmful health effects. A study on workers exposed on the job over several years reported nervous system effects, such as numbness of fingers and toes, from breathing thallium. Studies in people who ingested large amounts of thallium over a short time have reported vomiting, diarrhea, temporary hair loss, and effects on the nervous system, lungs, heart, liver, and kidneys. It has caused death. . . . Animal data suggest that the male reproductive system may be susceptible to damage by low levels of thallium.”

Compliance with the permit’s final effluent limits for all pollutants for which WV DEP deemed limitations were required must occur as rapidly as practical. With regard to limitations for which the Impoundment has been granted a compliance schedule, DEP has provided no evidence in the record that compliance with those final limits cannot be achieved immediately. WV DEP provides no basis to justify the need for granting the two year compliance schedule, and there does not appear to be any information or analyses to suggest that the Impoundment lacks necessary controls to ensure compliance.

WV DEP must eliminate or drastically reduce the two-year interim compliance period contained in the Draft Permit in order to ensure that all applicable effluent limitations are achieved and complied with in the shortest period of time possible to minimize adverse environmental impacts. The final permit must require immediate compliance with all final limitations in the Draft Permit.

II. FirstEnergy’s failure to state what treatment will be used to achieve effluent limitations violates state and federal application requirements.

The two-year compliance grace period is also not supportable because FirstEnergy failed to provide requisite information about how it plans to achieve effluent limitations in its permit

¹⁹ See Environmental Integrity Project, Ashtracker.org, <http://www.ashtracker.org/glossary/> (including links to data sources).

application, depriving the public of the opportunity to comment on these critical decisions. The Clean Water Act and West Virginia's Water Pollution Control Act require an application for an NPDES Permit to submit a "complete application,"²⁰ which must include both "Details and drawings of each treatment unit," and "for each outlet . . . a description of . . . The treatment received by the wastewater."²¹ However, FirstEnergy does not provide this information, and WV DEP, rather than requiring such descriptions, simply plans to afford FirstEnergy a two-year grace period on any toxic pollutant limits from any outfall, during which time the company is expected to develop a plan to achieved effluent limitations that will apply after two years.

While Condition 13 of the Draft Permit does require FirstEnergy to submit a plan within five months for achieving effluent limits, that plan should be part of this application, not a subsequently added component. FirstEnergy's plan for achieving effluent limitations is required to be submitted up to five months *following* the effective date of the permit:

Within five (5) months of the effective date of the permit, the permittee shall submit to the addresses referenced in Condition C.5 a plan for achieving compliance with the final effluent limitations referenced in Sections A.001, A.002, A.003, A.004, A.005, A.006, A.007, A.008, A.009, A.010, A.011, A.012, A.013, and A.014. The permittee shall semi-annually thereafter submit to the addresses referenced in Condition C.5 progress reports describing efforts taken to come into compliance with final limitations.²²

WV DEP must require FirstEnergy to submit a detailed description of treatment technologies to be employed as part of the permit application so that WV DEP and the public can evaluate their efficacy. "After the fact" selection of treatment technologies violates NPDES permit application requirements and blocks the public from meaningful notice of or comment opportunities on these technologies.

III. WV DEP failed to undertake an analysis of whether and which technology-based effluent limitations should apply to these discharges, in violation of federal and state water pollution laws.

WV DEP failed to establish technology-based effluent limitations that reflect the best available technology economically achievable from any outfall, in violation of the federal Clean Water Act and the West Virginia Water Pollution Control Act. As explained below, WV DEP is required by the Clean Water Act and WV law to use its best professional judgment ("BPJ") to set technology-based effluent limits ("TBELs") on a case-by-case basis for the pollutants in coal ash discharges from the Little Blue Run Impoundment. However, the Draft Permit and available supporting documents fail to mention whether a TBEL analysis was performed, and the effluent limits contained in the draft permit appear to all be derived from WV DEP's water-quality-based effluent limitation ("WQBEL") calculations. While the WQBEL calculations performed by WV

²⁰ 40 C.F.R. § 122.21(a)(1).

²¹ See West Virginia NPDES Industrial Permit Application Form 1, Section XIV, "Flows, Sources of Pollution, and Treatment Technologies," at 4 (updated Dec. 1, 2009), available at http://www.dep.wv.gov/WWE/permit/individual/Documents/NPDES_Ind_Form_IFIP.pdf.

²² 2015 Draft Permit, at 173.

DEP resulted in WV DEP imposing effluent limitations for many pollutants at several outfalls, WV DEP failed to perform its mandatory duty to determine whether TBELs would be appropriate for discharges from the Impoundment based on BAT. WV DEP must perform a thorough BPJ analysis for these discharges, which could require more stringent effluent limitations for certain pollutants and the imposition of numeric effluent limitations at many of the outfalls for which there are currently no numeric limitations for many pollutants.

a. Legal Requirements

The Clean Water Act prohibits the “discharge of any pollutant by any person” from a point source into waters of the United States unless such discharge is in compliance with the terms of a National Pollutant Discharge Elimination System (“NPDES”) permit issued by the U.S. Environmental Protection Agency (“EPA”) or an authorized state.²³ Under the Clean Water Act, an NPDES permit must contain effluent limits that “restore” and “maintain” the quality of the receiving water body.²⁴ At a minimum, DEP must set TBELs that reflect the ability of available technologies to reduce or eliminate pollution discharges.²⁵

EPA is required to promulgate effluent limits and guidelines (collectively, “ELGs”) to control discharges of pollutants into the waters of the U.S. from industrial point sources and to help implement the Clean Water Act’s TBEL requirements.²⁶ When setting TBELs, states look to federal ELGs first.²⁷ Where EPA has not promulgated ELGs for a particular category of discharger, or where the existing ELGs do not address all waste streams or pollutants discharged by a facility, states must use their BPJ and set TBELs for each pollutant.²⁸ When setting TBELs on a case-by-case basis, states must consider the same factors EPA must consider when promulgating ELGs.²⁹ As the D.C. Circuit explained,

When issuing permits according to its BPJ, EPA is *required* to adhere to the technology-based standards set out in § 1311(b). States issuing permits pursuant to § 1342(b) stand in the shoes of the agency, and thus must similarly pay heed to § 1311(b)’s technology-based standards when exercising their BPJ.³⁰

TBELs for toxic pollutants must reflect the “best available technology economically achievable,” or “BAT.”³¹ Thus, WV DEP must consider various factors, including “available” control technologies, the production process in use and the possibility of changing processes, the non-water quality impacts of controlling pollution, the age of equipment, and the costs of pollution

²³ 33 U.S.C. §§ 1311(a), 1342.

²⁴ 33 U.S.C. § 1251(a) (2011).

²⁵ See 33 U.S.C. §§ 1311, 1342(a)(1). If a discharge could cause or contribute to a violation of water quality standards in the receiving water, DEP must include WQBELs in the NPDES permit to prevent the exceedance. 33 U.S.C. § 1312(a); 40 C.F.R. § 122.44(d)(1)(i).

²⁶ 33 U.S.C. §§ 1311(b), 1314(b).

²⁷ See *Natural Res. Def. Council v. EPA*, 859 F.2d 156, 183 (D.C. Cir. 1988).

²⁸ *Id.* at 183; 33 U.S.C. § 1311(b)(2)(A); 40 C.F.R. § 122.44.

²⁹ See 33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3.

³⁰ *Natural Res. Def. Council*, 859 F.2d at 183.

³¹ *Id.*

control.³² In addition, BAT-based limits “shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him . . . that such elimination is technologically and economically achievable.”³³ In other words, where technology exists to achieve zero liquid discharge, BPJ standards require that TBELs be set at zero.³⁴

The existing ELGs for the Steam Electric category (Steam Electric ELGs), which were promulgated in 1982 and have yet to be revised, do not address pollutants in coal ash impoundment leachate or FGD or fly or bottom ash wastewater streams.³⁵ EPA last promulgated ELGs for the steam electric power generation industry more than 30 years ago, before the agency was fully cognizant of threats posed by coal ash impoundment wastewaters.

EPA has not yet finalized ELGs for metals and other pollutants in waste streams from power plants such as impoundment discharges. However, the steam electric power generating industry is by far the largest discharger of toxic pollutants and has caused widespread contamination of our rivers, lakes, and streams.³⁶ EPA has identified 27 pollutants to analyze in coal ash wastewaters, including: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, sodium, thallium, tin, titanium, vanadium, yttrium, and zinc.³⁷ These pollutants can cause a plethora of deleterious impacts on health and the environment. EPA has stated:

An increasing amount of evidence indicates that the characteristics of coal combustion wastewater have the potential to impact human health and the environment. Many of the common pollutants found in coal combustion wastewater (e.g., selenium, mercury, and arsenic) are known to cause environmental harm and can potentially represent a human health risk. Pollutants in coal combustion wastewater are of particular concern because they can occur in large quantities (i.e., total pounds) and at high concentrations (i.e., exceeding Maximum Contaminant Levels (MCLs)) in discharges and leachate to

³² 33 U.S.C. § 1314(b)(2)(B); 40 C.F.R. 125.3(d)(3).

³³ 33 U.S.C. § 1311(b)(2)(A) (emphasis added).

³⁴ See 33 U.S.C. § 1311(b)(2)(A) (emphasis added).

³⁵ See Steam Electric Power Generating Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards, 47 Fed. Reg. 52,290, 52,291 (Nov. 19, 1982) (noting that EPA expressly reserved “flue gas desulfurization waters” for “future rulemaking”). For the Steam Electric Category, EPA first set ELGs in 1974, with subsequent revisions in 1977 and 1982. The Steam Electric ELGs are codified at 40 C.F.R. 423 and include limitations for the following waste streams: once-through cooling water; cooling tower blowdown; fly ash transport water; bottom ash transport water; metal cleaning wastes; coal pile runoff; and low-volume waste sources, including wastewaters from wet scrubber air pollution control systems. *Id.* With respect to waste streams from power plants generally, such as the Bruce Mansfield Plant, the outdated ELGs cover only (1) pH and PCBs, (2) total suspended solids (“TSS”), and (3) oil and grease. See 40 C.F.R. §§ 423.12, 423.13 (also regulating for cooling tower blowdown waste streams only: chlorine, chromium, and zinc, in addition to 126 pollutants contained in chemicals added for cooling tower maintenance, and for metal cleaning wastes and chemical and non-chemical waste streams only: copper and iron).

³⁶ See 2009 EPA Detailed Study Report, at 3-19.

³⁷ *Id.* at 3-34; see also U.S. EPA, *Notice of Final 2008 Effluent Guidelines Program Plan*, 73 Fed. Reg. 53,218 (Sept. 15, 2008).

groundwater and surface waters. In addition, some pollutants in coal combustion wastewater present an increased ecological threat due to their tendency to persist in the environment and bioaccumulate in organisms, which often results in slow ecological recovery times following exposure.³⁸

EPA has stated plainly that “[t]he current regulations, which were last updated in 1982, do not adequately address the toxic pollutants being discharged and have not kept pace with changes that have occurred in the electric power industry over the last three decades.”³⁹ In particular, EPA added that coal-fired power plants are “generating new waste streams that during the previous rulemakings either were not evaluated or were evaluated to only a limited extent due to insufficient characterization data.”⁴⁰

EPA has published a proposal to revise the ELGs for power plants to include metals and other pollutants as the Clean Water Act requires.⁴¹ However, it does not plan to issue a final rule until at least September 30, 2015.⁴² Accordingly, in the interim, the Clean Water Act requires that WV DEP use its BPJ to set BAT-based TBELs to limit pollution and protect the Ohio River Basin from discharges from the Little Blue Run Impoundment into West Virginia.⁴³

While WV DEP is required to conduct a BPJ analysis for the Steam Electric Generating Category using EPA’s mandatory factors for establishing ELGs,⁴⁴ EPA has already completed undertaken the vast majority of this analysis. EPA signed a comprehensive proposed rule and published detailed supporting documents on April 19, 2013.⁴⁵ Prior to the proposal, EPA published guidance and *Steam Electric Power Generating Point Source Category* reports.⁴⁶ EPA has made numerous materials available to state permit writers and, over the course the multi-year study of the Steam Electric industry conducted prior to the proposed rule, coordinated directly with state and regional permit writers in this regard.⁴⁷ Thus, WV DEP has—and has had—the information it needs to conduct the BPJ analysis required by law. While EPA works to update its applicable ELG rule, the extensive memoranda and comprehensive detailed studies discussing the available treatment technologies for known waste streams associated with FGD systems and coal combustion at electric power generating stations should be used by state agencies to assist

³⁸ EPA, *Steam Electric Power Generating Point Source Category: Final Detailed Study Report*, EPA 821-R-09-008, at 3-19 (Oct. 2009) [hereinafter “2009 EPA Detailed Study Report”], available at http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/Steam-Electric_Detailed-Study-Report_2009.pdf.

³⁹ Technical Development Document for the Proposed Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category at 1-9 (Apr. 2013), Docket No. EPA-HQ-LW-2008-0819-2257 [hereinafter “2013 ELG Technical Development Document”], available at http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/Steam-Electric_TDD_Proposed-rule_2013.pdf.

⁴⁰ *Id.*

⁴¹ See 2013 Proposed ELG Rule.

⁴² EPA, Proposed Effluent Guidelines for the Steam Electric Power Generating Category, <http://water.epa.gov/scitech/wastetech/guide/steam-electric/proposed.cfm#consent> (last visited July 15, 2014).

⁴³ 33 U.S.C. § 1311(b)(2)(A).

⁴⁴ See 33 U.S.C. § 1314(b)(2)(B); *Natural Res. Def. Council v. EPA*, 859 F.2d at 183.

⁴⁵ See 2013 Proposed ELG Rule, 78 Fed. Reg. 34,432 (June 7, 2013); see also 2013 ELG Technical Development Document; 2013 ELG Environmental Assessment.

⁴⁶ See Hanlon Memo; 2009 EPA Detailed Study Report; 2013 ELG Technical Development Document; 2013 ELG Environmental Assessment.

⁴⁷ *Id.*

them with their requisite BAT determinations and resulting TBELs.⁴⁸ Accordingly, DEP has before it a wealth of information with regard to the best available technologies to control discharges of pollutants from the Impoundment to which it should refer when making its BPJ analyses as to BAT.

Notably, EPA reinforced in its 2013 Proposed ELG rule the careful consideration of “available” technologies that must be employed by a state when analyzing BAT, stating that what constitutes BAT may be a higher level of performance than that currently being achieved or commonly practiced in a particular industry:

BAT may reflect the highest performance in the industry and may reflect a higher level of performance than is currently being achieved based on technology transferred from a different subcategory or category, bench scale or pilot plant studies, or foreign plants. *American Paper Inst. v. Train*, 543 F.2d 328, 353 (D.C. Cir. 1976); *American Frozen Food Inst. v. Train*, 539 F.2d 107, 132 (D.C. Cir. 1976). BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice. *See American Frozen Foods*, 539 F.2d at 132, 140; *Reynolds Metals Co. v. EPA*, 760 F.2d 549, 562 (4th Cir. 1985); *California & Hawaiian Sugar Co. v. EPA*, 553 F.2d 280, 285-88 (2nd Cir. 1977).⁴⁹

EPA authorized WV DEP to issue NPDES permits pursuant to the Clean Water Act on May 10, 1982.⁵⁰ The applicable West Virginia law for issuing NPDES permits is the West Virginia Water Pollution Control Act (“WPCA”), W.Va. Code § 22-11-1, et seq. The West Virginia Legislative Rules require WV DEP to establish effluent limitations for NPDES permits on a case-by-case basis that reflect compliance with the TBEL requirements of the Clean Water Act.⁵¹

b. WV DEP failed to conduct a BPJ analysis or set technology-based effluent limitations at any of the 14 outfalls.

Although WV DEP established QBELs for many pollutants, WV DEP failed to consider available technologies recognized by EPA as applicable to coal ash impoundment combustion residual leachate and failed to propose TBELs that reflect the level of pollution reductions achievable by the technologies selected. WV DEP is required to establish TBELs for all discharges from the Impoundment that reflect BAT for impoundment leachate wastewaters. The limits contained in the Draft Permit for toxic and other common coal ash pollutants are based on QBEL calculations. It does not appear from the draft permit or fact sheet that WV DEP undertook a BPJ analysis or even considered what constitutes BAT for these discharges or whether TBELs would be appropriate.

⁴⁸ *Id.*

⁴⁹ EPA, Proposed Rule, *Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category*, 78 Fed. Reg. 34,431 (June 7, 2013), available at <https://www.federalregister.gov/articles/2013/06/07/2013-10191/effluent-limitations-guidelines-and-standards-for-the-steam-electric-power-generating-point-source> [hereinafter “2013 Proposed ELG Rule”].

⁵⁰ 47 Fed. Reg. 22,363 (May 10, 1982). *See also* 33 U.S.C. § 1342(a)(2).

⁵¹ *See, e.g.*, 47 C.S.R. § 10, National Pollutant Discharge Elimination System (NPDES) Program (July 2, 2012).

For example, in the Fact Sheet, WV DEP states in the section entitled “Rationale for Proposed Effluent Limitations and Monitoring Requirements” that, “to determine effluent limitations for each proposed outlet,” WV DEP utilized the agency’s June 30, 1997 document entitled “Water Quality Standards/Mixing Zones, Implementation Guidance,” as well as the antidegradation requirements of Title 60, Series 5.⁵² No mention is made of TBELs or a BAT analysis having been done.

As explained below, EPA’s analysis of available technologies for its 2013 Proposed ELG Rule have already established that BAT for coal ash combustion residual leachate is chemical precipitation followed by vapor-compression evaporation and crystallization (i.e., mechanical evaporation) or, at a minimum, chemical precipitation followed by biological treatment (i.e. biological treatment). For a thorough analysis of BAT technologies available for discharges like those emanating from the Little Blue Run Impoundment, please see the comments of EIP et al on the 2013 Proposed ELG Rule.⁵³ WV DEP must revise the Draft Permit for WV discharges from the Little Blue Run Impoundment to incorporate TBELs reflecting these technologies.

WV DEP’s compliance with the Clean Water Act’s requirement to set strict TBELs is particularly important because combustion residual leachate contributes to damage at coal ash sites in a profound way and because establishing TBELs would likely result in many additional effluent limitations being imposed in the Impoundment discharges where no limits are currently included in the Draft Permit based on WQBEL calculations alone. For an example of the latter, Table 2 shows that WV DEP failed to impose any numeric effluent limitations in the Draft Permit for many toxic pollutants from many outfalls. For many pollutants at many outfalls, WV DEP’s WQBEL calculations did not result in the imposition of effluent limitations for some pollutants known to be present in the combustion residual leachate discharges from the Impoundment as evidenced by the application data submitted by FirstEnergy.⁵⁴ EPA has confirmed that releases of these pollutants from coal ash sites result in risks to health and the environment.⁵⁵

Table 2. Number of Outfalls for which WV DEP Imposed Numeric Limitations in the Draft Permit for Select Pollutants

Pollutant	Antimony	Arsenic	Barium	Boron	Cobalt	Copper	Fluoride	Lead	Sulfate	TDS
# Outfalls with limits	7 of 14	9 of 14	2 of 14	0 of 14	0 of 14	6 of 14	4 of 14	8 of 14	0 of 14	0 of 14

There are numerous treatment technologies that are available and economically achievable to reduce these and other pollutants in the Little Blue Run Impoundment’s discharges into West

⁵² 2015 Draft Permit Fact Sheet, at 3–4.

⁵³ EIP, Earthjustice, and Sierra Club, Comments on EPA’s Proposal to Revise the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, Docket No. EPA-HQ-OW-2009-0819-4684 (Sept. 20, 2013). The comments and appendices and exhibits are available at www.regulations.gov. Because these documents are voluminous, we hereby incorporate them by reference instead of providing them as attachments.

⁵⁴ See discussion in Section I, *supra*, and note 13.

⁵⁵ See discussion in Section I, *supra*.

Virginia waters that WV DEP simply failed to consider, and chemical precipitation plus mechanical evaporation or plus biological treatment could achieve significant reductions of many of these pollutants.

i. BAT for coal ash combustion residual leachate is chemical precipitation followed by mechanical evaporation.

Chemical precipitation plus mechanical evaporation is technologically available and economically achievable for treatment of releases of leachate wastewaters from coal ash impoundments and WV DEP should use its BPJ to set TBELs for all outfalls based on this technology.⁵⁶ All of the discharges from the Little Blue Run Impoundment meet EPA's proposed definition of "combustion residual leachate," which EPA proposes to define as:

[L]eachate from landfills or surface impoundments containing residuals from the combustion of fossil or fossil-derived fuel. Leachate includes liquid, including any suspended or dissolved constituents in the liquid, that has percolated through or drained from waste or other materials placed in a landfill, or that pass through the containment structure (e.g., bottom, dikes, berms) of a surface impoundment. Leachate also includes the terms seepage, leak, and leakage, which are generally used in reference to leachate from an impoundment.⁵⁷

EPA has repeatedly made clear that "surface impoundments are not designed for, nor are they effective at, removing . . . dissolved metals" from combustion residual leachate.⁵⁸ However, WV DEP failed to analyze what constitutes BAT, and only stated in its Fact Sheet that it expected FirstEnergy to comply with the proposed QBELs in the Draft Permit by "either routing effluent back to the Little Blue Run Impoundment or routing it directly into the Ohio River which should enable compliance through the granting of a mixing zone."⁵⁹ Regardless of whether this would achieve QBELs, routing the discharges back into the Impoundment or into the Ohio River does not reflect BAT, and WV DEP must impose *technology-based* effluent limitations that reflect BAT for combustion residual leachate.

BAT for combustion residual leachate is chemical precipitation plus mechanical evaporation. This is because the characteristics of leachate and FGD wastewater are similar, and many of the same treatment technologies that are appropriate for FGD wastewater are also appropriate for leachate.⁶⁰ In the alternative, chemical precipitation plus biological treatment is BAT for leachate. For these reasons, maintaining the status quo (i.e., routing the discharges back to the Impoundment with no additional treatment) is not BAT.

⁵⁶ Technical Development Document for the Proposed Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category at 7-39 (Apr. 2013), Docket No. EPA-HQ-LW-2008-0819-2257 [hereinafter TDD].

⁵⁷ 2013 Proposed ELG Rule, 78 Fed. Reg. at 34,533.

⁵⁸ See, e.g., TDD 8-13; EPA, Steam Electric Point Source Category: Final Detailed Study Report (EPA-821-R-09-008) xiii (Oct. 2009), available at http://water.epa.gov/scitech/wastetech/guide/steamelectric/upload/Steam-Electric_Detailed-Study-Report_2009.pdf.

⁵⁹ Draft Permit, at 4.

⁶⁰ TDD at 7-39.

Chemical precipitation plus mechanical evaporation will achieve substantial reduction in pollutants from the Impoundment outfalls compared to the reductions imposed by the WV DEP. The impoundment outfalls, as stated earlier, have similar characteristics to, and can be subject to similar technology treatments as, FGD wastewaters, and analyses of treatment technologies for this type of waste stream show that much greater reductions in pollutants are achievable than the limits proposed by WV DEP at certain outfalls. See Table 3.

Table 3. EPA’s Proposed Daily Maximum TBELs for FGD Wastewater by Treatment Option and WV DEP’s Proposed Daily Maximum Limits for the Little Blue Run Impoundment

Pollutant (µg/L)	Chemical precip. plus mechanical evaporation	Chem. precip. plus biological treatment	Draft Permit Outfall 003, 004	Draft Permit Outfall 005	Draft Permit Outfalls 006, 009	Draft Permit Outfalls 007, 008
Arsenic	4	8	Rpt only	Rpt only	Rpt only	4.6
Selenium	5	16	59	67	Rpt only	6.7

WV DEP should require chemical precipitation plus mechanical evaporation for all discharges from the Impoundment as this technology constitutes BAT for leachate. The leading technology for treatment of FGD wastewater—and the only one that will push the Little Blue Run Impoundment towards the Clean Water Act goal of zero discharge—is chemical precipitation followed by mechanical evaporation, and this technology is likewise BAT for combustion residual leachate wastewaters. Mechanical evaporation is the only technology evaluated by EPA that addresses all pollutants present in FGD wastewater and leachate because it is the only technology that can effectively control boron, bromides, and TDS, in addition to many other pollutants. This technology eliminates far more pollution than chemical precipitation followed by biological treatment, chemical precipitation alone, or setting ponds.⁶¹ An industry study conducted in 2007 concluded that “[mechanical] [e]vaporation is a comprehensive means of dealing with FGD wastewaters, resulting in the capture of essentially all of the water’s pollutants and returning clean water to the process or other plant uses.”⁶²

EPA has already determined that mechanical evaporation is “technologically available” for treatment of FGD wastewater. A technology is “available” where EPA has evidence that its use is practicable within the relevant industry. “That no plant in a given industry has adopted a pollution control device which could be installed does not mean that the device is not ‘available.’”⁶³ A discharger may be required to use superior treatment technologies that have been demonstrated in another context if a technology transfer is practicable.⁶⁴ Mechanical evaporation has been used for over 30 years in many industries, including for treatment of

⁶¹ 78 Fed. Reg. at 34,477.

⁶² Electric Power Research Institute, Treatment Technology Summary for Critical Pollutants of Concern in Power Plant Wastewaters, at 4-3 (Jan. 2007), Docket No. EPA-HQ-OW-2009-0819-2168 [hereinafter “EPRI 2007”].

⁶³ *Hooker Chems. & Plastics Corp. v. Train*, 537 F.2d 620, 636 (2d Cir. 1976).

⁶⁴ See, e.g., *Tanner’s Council of Am. v. Train*, 540 F.2d 1188, 1192 (4th Cir. 1976) (holding that transfer is permissible if the technology can be practicably applied); see also *Reynolds Metals Co. v. EPA*, 760 F.2d 549, 562 (4th Cir. 1985) (treatment technology from aluminum forming industry was transferable to can-making industry).

cooling tower blowdown and coal gasification wastewaters in the utility industry. According to a 2007 industry study, vapor compression and falling film evaporators (also known as brine concentrators) “have been the workhorse for dealing with cooling tower blowdown and other power plant wastewaters.”⁶⁵ As of 2008, there were 146 mechanical evaporation installations in the United States.⁶⁶ In addition, there are several major manufacturers of zero liquid discharge systems, including Veolia, Aquatech, and GEA Processing Engineering, GE Power and Water, and numerous smaller vendors. These products have been applied across a large range of industries, showing the adaptability of these systems.

While FGD wastewaters and leachate have some different characteristics than these wastewaters, the industry is quickly adapting the technology for use on FGD wastewaters. Mechanical evaporation treatment systems for FGD wastewater are operating at no fewer than four plants in Italy and two plants in the United States. At least two more full-scale systems are in the planning or construction stages in the United States. The systems in Italy have been operating for five to seven years without any significant problems. The Enel’s Federico II plant in Brindisi, Italy has a particularly strong record of performance with a vapor compression and crystallization system, and was selected by EPA as the leading plant for setting effluent limits based on this technology in the recently proposed rule to revise the Steam Electric ELGs.⁶⁷ The record for that rule describes in detail two other Italian plants operating mechanical evaporation systems for FGD wastewater.⁶⁸ The Kansas City Power & Light Iatan plant in Missouri and the Merrimack Station in New Hampshire, Public Service Company of New Hampshire (“PSNH”) also both operate mechanical evaporation systems. In fact, PSNH chose to install an Aquatech zero liquid discharge system, even when EPA Region 1 was still considering a biological treatment system to be BAT.⁶⁹ The fact that PSNH did so is a testament to the proven technological feasibility of such systems. PSNH completed commissioning, testing, and performance demonstration of the zero discharge technology in June 2012, and the system went into service on June 21, 2012.⁷⁰ As a result, EPA recently published a revised draft permit to change their BAT determination to mechanical evaporation for FGD wastewater for this plant.⁷¹

In addition to the plants at which mechanical evaporation systems are already operating, similar systems are in various stages of design and construction at two coal plants in the United States: Duke Energy’s Mayo Station in North Carolina and Duke Energy’s Roxboro Station in North

⁶⁵ EPRI 2007, at 4-3.

⁶⁶ Summary of Zero Liquid Discharge Waste Management Installations, Docket No., EPA-HQ-OW-2009-0819-1224.

⁶⁷ 2013 ELG Technical Development Document at 13-19.

⁶⁸ Press Release, Sept. 22, 2009, HPD awarded Flue Gas desulfurization (FGD) Effluent treatment for Monfalcone coal-fired generating station. The system involves a clarification and softening pretreatment to remove solids, calcium, magnesium, and heavy metals followed by falling film evaporation, and brine crystallization. The plant burns a Russian bituminous coal with a sulfur content between 0.3 and 0.4 percent. Final Monfalcone Site Visit Notes, Docket No. EPA-HQ-OW-2009-0819-1784.

⁶⁹ See Investigation of PSNH Installation and Cost Recovery of Scrubber Technology at Merrimack Station, Final Report of Jacobs Consultancy (2012), at 15-17. Merrimack Station is a two-unit, 458 MW plant burning eastern bituminous coal.

⁷⁰ PSNH Progress Report, Merrimack Station Scrubber Project, June 28, 2012, Docket No. DE 11-250, at 2, Exhibit FGD-21.

⁷¹ EPA, Fact Sheet for Merrimack Station Revised Draft Permit No. NH0001465 5 (Apr. 2014), *available at* <http://www.epa.gov/region1/npdes/permits/draft/2014/draftnh0001465permit.pdf#page=30>.

Carolina. Under a consent decree with the state, Duke Energy has committed to constructing a zero liquid discharge system at its Mayo plant.⁷² Duke Energy is also installing a mechanical evaporation system at the Roxboro plant to avoid violations of drinking water standards for TDS and chloride in the small lake receiving its FGD wastewater.⁷³ As of November 2011, the vendor for these systems was doing final equipment design and balance of plant design at both plants.⁷⁴ Although cost estimates are not public, the costs were “at the level that [the utility] [is] comfortable getting the job in at.”⁷⁵

According to the current EPA rulemaking to revise the Steam Electric ELGs, this technology is also economically achievable for the industry.⁷⁶ WV DEP has provided no information or analysis to show that mechanical evaporation is not economically achievable for combustion residual leachate discharges from the Little Blue Run Impoundment.⁷⁷

Further, none of the other BAT factors precludes WV DEP from finding that mechanical evaporation is BAT for leachate from the Little Blue Run Impoundment. The record in EPA’s recent proposal revising the Steam Electric ELGs demonstrates that the age of the facility does not impair the suitability of mechanical evaporation for treating this wastewater stream. Based on extensive industry surveys, EPA determined that “the age of the plant and generating unit(s) do not impact the plants’ ability to install the treatment technologies proposed as part of this rulemaking because the treatment system for the FGD wastewater is distinctly separate from the generating unit.”⁷⁸ Mechanical evaporation, like the other technologies EPA considered, is a separate and self-contained process that does not affect the operation of the boilers or the other production processes at the facility.

Another BAT factor to be considered is non-water-quality environmental impacts. While operating a mechanical evaporation system does require more energy than other technologies, the amount of energy is negligible compared to the energy output of the power station. Moreover, there are energy savings associated with generation of a relatively clean distillate stream by the mechanical evaporation system, which represents water that does not have to be pumped from a nearby water body, treated, or transported—all of which consume energy.

The mechanical evaporation system does generate a small amount of solid waste. For example, at the Merrimack plant, the volume attributable to the evaporation system was about 5,000 tons

⁷² North Carolina Department of Env't. And Nat. Resources, Special Order by Consent, Mayo Steam Electric Plant, June 26, 2012, ¶2.a(1).

⁷³ Deposition of Thomas E. Higgins, CH2M Hill, in *Tennessee Clean Water Network v. Tennessee Dept. of Env't. & Conservation*, Case No. WPC10-0116 (Feb. 16, 2012), at 122, 134-35. Dr. Higgins was an expert witness for Tennessee Valley Authority with respect to the wastewater treatment at the Bull Run plant. *Id.* at 13, 52.

⁷⁴ *Id.* at 123.

⁷⁵ *Id.* at 123-24.

⁷⁶ Environmental Integrity Project et al., Comments on EPA’s Proposal to Revise the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category 22-25 (Docket No. EPA-HQ-OW-2009-0819-4684)(Sept. 20, 2013), available at www.regulations.gov [hereinafter Comments on Steam Electric ELG Rulemaking].

⁷⁷ See generally 2015 Draft Permit Fact Sheet.

⁷⁸ ERG Non-CBI Subcategorization Memo, EPA-HQ-OW-2009-0819-2258, at 5.

per year.⁷⁹ To put this number in perspective, the plant was also estimated to generate 187,000 tons per year of gypsum as a byproduct of the FGD system and 94,566 tons of ash per year.⁸⁰ The additional solid waste created by the mechanical evaporation system at Merrimack was less than 2 percent of the plant's total solid waste.⁸¹

Thus, none of the statutory BAT factors demonstrate that mechanical evaporation is not technologically or economically achievable. The record does not include any evidence to suggest that it is not technologically feasible or economically achievable to eliminate, or at least significantly reduce, toxic pollution in combustion residual leachate using a chemical precipitation plus mechanical evaporation system. In this case, EPA has “determined that combustion residual leachate from landfills and impoundments includes similar types of constituents as FGD wastewater,”⁸² and BAT for FGD wastewater is chemical precipitation plus mechanical evaporation. Thus, WV DEP should have considered, and required, chemical precipitation plus mechanical evaporation as BAT for leachate.

ii. The second best technology for treatment of combustion residual leachate discharges from all Outfalls from the Little Blue Run Impoundment into West Virginia is chemical precipitation plus biological treatment.

The second best technology for FGD wastewaters is chemical precipitation plus biological treatment, which was also not considered by WV DEP for treatment of any of the pollutants in the seeps on the West Virginia side of the Little Blue Run Impoundment.

Chemical precipitation followed by biological treatment achieves substantial reductions in discharges of toxic mercury and arsenic—through the chemical precipitation process—and reductions in selenium and nitrate/nitrite levels—through the biological treatment system. While it does not address bromides, boron, or TDS, it achieves the best removal, second to mechanical evaporation. None of the BAT factors rules out biological treatment; indeed, the BAT factors compel biological treatment if there is some legitimate basis for rejecting mechanical evaporation at a facility. Yet, despite the fact that this technology is already in use at the Homer City Plant in Pennsylvania for Outfall 027, that at least seven other U.S. plants use biological treatment, and EPA Region 1 had already determined this technology is BAT for FGD wastewater discharges at the Merrimack Plant in New Hampshire, WV DEP failed to consider this technology at all for the Impoundment's West Virginia discharges.

IV. Conclusion

For the forgoing reasons, Commenters respectfully request that the WV DEP make substantive revisions consistent with these comments for Draft NPDES Permit WV0117021 for discharges

⁷⁹ See Expert Report of John H. Koon in the Matter of Comments on the NPDES Permit for PSNH's Merrimack Station 13 (2012).

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² TDD at 7-39. See also EIP at al., Comments on EPA's 2013 Proposed ELG Rule, at Appendix D, Jenkins Leachate Report.

into West Virginia from the Little Blue Run Impoundment to ensure the protection of public health and the environment.

Sincerely,



Lisa Hallowell, Attorney*
Patton Dycus
Environmental Integrity Project
1000 Vermont Avenue NW, Suite 1100
Washington, DC 20005
*Licensed and practicing in Pennsylvania
lhallowell@environmentalintegrity.org, 202-294-3282
pdycus@environmentalintegrity.org, 202-263-4455
Fax: 202-296-8822

CC:

Via Electronic Mail

Yogesh Patel, Assistant Director, Division of Water and Waste Management, WV DEP,
Yogesh.P.Patel@wv.gov

Mary Martha Truschel, PA DEP, mtruschel@pa.gov