

## Pennsylvania and Coal Ash Disposal in Ponds and Landfills

Coal Fired Power Plant <sup>i</sup>	Operator	Coal Ash Disposal Site	County
Bruce Mansfield Power Station	First Energy Generation Corp.	4 ponds (1 unlined)	Beaver
PPL Brunner Island Power Station	PPL Generation LLC	5 unlined ponds/2 landfills	York
PPL Martins Creek Power Station	PPL Generation LLC	5 ponds	Northampton
PPL Montour Power Station	PPL Generation LLC	2 unlined ponds/2 landfills	Montour
WPS Energy Services Sunbury Generating Station	Corona Power LLC	1 unlined pond	Snyder
Homer City Station	Midwest Generations EME LLC	14 ponds (3 unlined)/3 landfills (2 unlined)	Indiana
Hunlock Power Station	UGI Development Co.	2 ponds	Luzerne
Seward (RRI)	Reliant Energy Inc.	data indeterminate	Indiana
Conemaugh	Reliant Energy Inc.	9 ponds (3 unlined)/3 landfills (1 unlined)	Indiana
Keystone (RRI)	Reliant Energy Inc.	12 ponds (1 unlined)/4 landfills (1 unlined)	Armstrong
Northampton Generating Company	US Operating Services Co.	landfill*	Northampton
Colver Power Project	Inter-Power/AhlCon Partners, L.P.	data indeterminate	Cambria
Mitchell Power Station	Allegheny Energy Supply Co. LLC	2 unlined landfills	Washington
Hatfields Ferry Power Station	Allegheny Energy Supply Co. LLC	5 ponds/2 landfills (1 unlined)	Greene
Shawville	Reliant Energy Inc.	4 ponds (2 unlined)/2 landfill (1 unlined)	Clearfield
AES Beaver Valley Partners	AES NUGs	data indeterminate	Beaver
Elrama Power Plant	Reliant Energy Inc.	4 ponds/1 landfill	Washington
Cheswick Power Plant	Reliant Energy Inc.	2 ponds/1 landfill,	Allegheny
Armstrong Power Station	Allegheny Energy Supply Co. LLC	2 landfills (1 unlined)	Armstrong
Eddystone Generating Station	Exelon Energy	data indeterminate	Delaware
New Castle Plant	Reliant Energy Inc.	2 unlined ponds/1 landfill	Lawrence
P. H. Glatfelter	P. H. Glatfelter	data indeterminate	York
Titus	Reliant Energy Inc.	2 ponds/4 unlined landfills	Berks
Portland (RRI)	Reliant Energy Inc.	data indeterminate	Northampton
G. F. Weaton Power Station	Horsehead Corp.	landfill*	Beaver
Cromby Generating Station	Exelon Energy	data indeterminate	Chester
		<b>75 ponds (20 unlined)</b>	

\*indicates one or more coal ash landfills.<sup>ii</sup>

**Amount of coal ash generated per year:** Over 15.4 million tons. PA ranks 1st in the U.S. for coal ash generation.<sup>iii</sup>

**Number of Coal Ash Ponds/Landfills:** 75 (20 unlined) ponds at 15 plants and 28 (13 unlined) landfills.<sup>iv</sup>

**Pond Ratings:** Three ponds are rated “high hazard,” meaning their failure would cause loss of life, and three are rated “significant,” meaning failure would cause major economic loss and environmental damage.<sup>v</sup> Almost all are over 35 years old and one is 60 years old.<sup>vi</sup> Their age makes it unlikely that they have liners and leachate collection systems.

### Details on Select Coal Ash Ponds:

- (1) **FirstEnergy Bruce Mansfield Plant, Shipping port:** The Little Blue Run coal ash pond, built in 1975, is the largest unlined coal ash pond in the U.S. The 1,300-acre waste pond is contained by a 400-foot tall, 2200-foot long rock-and-earth high hazard dam. Over 100 million tons of coal ash have already been disposed in the pond, which lies in both PA and WV. There are large seeps in the dam and in surrounding hillsides in WV. According to the PADEP, a catastrophic dam failure would take the lives of 50,000 citizens.
- (2) **PPL Montour Power Station, Washingtonville:** Built in 1968, the primary ash basin contains over 7.7 million tons of waste with a dam height of 40 feet. As a result of seeps discovered in 2004, PPL is under a 2007 Administrative Consent Order with PADEP to take abatement actions.

- (3) **PPL Brunner Island Power Station, York Haven:** The Brunner Island's 70-acre coal ash pond contains approximately 3.6 million tons of ash. An inspection of the dam in 2008 "revealed the need to further evaluate the structural integrity of the impoundment." Despite the passage of four years, the evaluation is still "pending."

**Documented Contamination at Coal Ash Disposal Sites:** There are 12 documented cases of coal ash damage:

- (1) **Bruce Mansfield Power Station:** Discharges to groundwater from the 1300-acre pond have exceeded federal drinking water standards (MCLs) for arsenic and other parameters in multiple residential drinking wells. Coal ash pollutants also exceeded PA Water Quality Criteria in Mark's Run and other off-site surface water and exceeded MCLs at many on-site groundwater monitoring wells.<sup>vi</sup>
- (2) **Elrama Power Plant:** Coal ash contaminated groundwater with cadmium exceeding MCLs.
- (3) **Fern Valley Landfill:** Arsenic levels up to 36 times the primary MCL were found in monitoring wells. Concentrations of boron, chloride, sulfate and total dissolved solids (TDS) in monitoring wells regularly exceeded health-based levels or secondary MCLs.<sup>vii</sup>
- (4) **Hatfields Ferry Station:** An unlined coal ash landfill has contaminated groundwater, polluted surface water, and damaged aquatic ecosystems. MCLs for arsenic, aluminum, boron, chromium, manganese, molybdenum, sulfate, and total dissolved solids (TDS) have been exceeded since at least 2001.<sup>ix</sup>
- (5) **Hunlock Power Station:** A coal ash pond on the Susquehanna River has contaminated groundwater with arsenic, iron, and manganese at levels greatly exceeding federal drinking water standards, including arsenic at 3 to 12 times the MCL, iron at up to 131 times the MCL, and manganese up to 314 times the MCL.<sup>x</sup>
- (6) **Mitchell Power Station:** Coal ash ponds contaminated groundwater with arsenic at twice the MCL and boron at more than twice the EPA Child Health Advisory. Data in 2007 show that maximum levels of arsenic and boron are twice the maximum levels found in 1998.<sup>xi</sup>
- (7) **Phillips Power Station Landfill:** In the late 1980s, coal ash ponds contaminated several public water wells with high levels of total dissolved solids. Legal action by PADEP led to closure of the ponds and a \$50,000 fine. Groundwater contamination was later identified at the ash landfill west of the Phillips Plant. Ten years later, wells regularly exceed standards for TDS, chloride, fluoride, manganese and aluminum.<sup>xii</sup>
- (8) **Portland Station's Bangor Ash Disposal Site:** Groundwater concentrations exceed primary and secondary MCLs for arsenic, aluminum, fluoride, boron, iron, manganese, sulfate, and TDS, and the landfill's consultant concedes that the landfill is responsible for the degradation.
- (9) **Seward:** An unlined coal ash and coal refuse pit, as well as closed ash sites, leach pollutants into the underlying aquifer at levels that far exceed state and federal drinking water standards for antimony and cadmium. Surface water exceeded standards for aluminum, nickel, and zinc.
- (10) **Homer City Station:** Groundwater monitoring data show a history of exceedances of state and/or federal standards for arsenic, boron, chromium, manganese, molybdenum, sulfate, and TDS.
- (11) **New Castle Power Plant:** Groundwater monitoring data show a history of exceedances of state and/or federal standards for arsenic.
- (12) **PPL Martins Creek Station, PA:** In 2005, the PPL ash pond failed at Martins Creek, releasing over 100 million gallons of water and fly ash onto surrounding fields and into the Oughoughton Creek and Delaware River. Arsenic in the river rose to levels far above the federal drinking water standard, forcing a local water system to shut down temporarily. PPL was fined \$1.5 million and incurred \$37 million in cleanup costs. Long-term impacts on the Delaware River from the spill are currently being studied

**Deficiencies in PA Coal Ash Regulations:** PA regulations do not require all coal ash landfills to be constructed with a composite liner. PA also does not require state regulators to inspect coal ash ponds and dams.

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<sup>i</sup> United States Environmental Protection Agency (U.S. EPA). Database of coal combustion waste surface impoundments (2009). Information collected by EPA from industry responses to Information Collection Request letters issued to the companies on March 9, 2009.

<sup>ii</sup> U.S. Department of Energy's Energy Information Administration, Form EIA-767, Annual Steam-Electric Plant Operation and Design Data. 2005.

<sup>iii</sup> U.S. EPA, *Regulatory Impact Analysis for EPA's Proposed RCRA Regulation of Coal Combustion Residues (CCR) Generated by the Electric Utility Industry*, Exhibit 3D (August 2010).

<sup>iv</sup> U.S. EPA. Database of coal combustion waste surface impoundments (2012) available at <http://www.epa.gov/osw/nonhaz/industrial/special/fossil/surveys/index.htm> and US EPA, Response to FOIA, July 2012 available at <http://earthjustice.org/sites/default/files/Coal-Plant-CCW-Disposal-Units-from-ICR.pdf>.

<sup>v</sup> *Id.*

<sup>vi</sup> *Id.*

<sup>vii</sup> Earthjustice, *In Harm's Way* 161 (Aug. 2010), available at [http://www.environmentalintegrity.org/news\\_reports/documents/INHARMSWAY\\_FINAL.pdf](http://www.environmentalintegrity.org/news_reports/documents/INHARMSWAY_FINAL.pdf).

<sup>viii</sup> Earthjustice, *Out of Control* 76 (Feb. 2010), available at [http://www.environmentalintegrity.org/news\\_reports/documents/OutOfControl-MountingDamagesFromCoalAshWasteSites.pdf](http://www.environmentalintegrity.org/news_reports/documents/OutOfControl-MountingDamagesFromCoalAshWasteSites.pdf).

<sup>ix</sup> Earthjustice, *In Harm's Way* at 174.

<sup>x</sup> Earthjustice, *Out of Control* at 81.

<sup>xi</sup> *Id.* at 65.

<sup>xii</sup> *Id.* at 68.