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Pennsylvania and Coal Ash Disposal in Ponds and Landfills

Coal Fired Power Plant[1]	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
Northamption 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

*indicates one or more coal ash landfills.[2]

Amount of coal ash generated per year*:* Over 15.4 million tons. PA ranks 1st in the U.S. for coal ash generation.[3]

Number of Coal Ash Ponds/Landfills: 77 (21 unlined) ponds at 15 plants and 28 (13 unlined) landfills.[4]

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.[5] Almost all are over 35 years old and one is 60 years old.[6] Their age makes it unlikely that they have liners and leachate collection systems.

Documented Contamination at Coal Ash Disposal Sites: There are 10 proven and potential cases of coal ash damage[7]:

(1) **Bruce Mansfield Power Station's Little Blue Run Impoundment:** This nearly 1,000-acre impoundment is the largest unlined coal ash pond in the United States. It is contained from the Ohio River by a high hazard earthen dam. Discharges to groundwater from the 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. After citizens threatened to file suit, DEP sued FirstEnergy alleging that coal ash disposal "may present an imminent and substantial endangerment" due to contamination of ground and surface waters, and settlement of the suit requires cessation of receipt of waste after 2016, imposes an $800,000 penalty for environmental violations, and the closure plan requires FirstEnergy to post a $169 million bond and to maintain it until no further remediation is required.[8]

(2) Elrama Power Plant: Coal ash contaminated groundwater with cadmium exceeding MCLs.

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(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.

(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.

(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.

(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.

(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.

(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) 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: Coal ash is regulated as residual waste under PA law, unless the placement is considered "beneficial use," in which case no permits are required as long as certain minimum regulations are followed. PA regulations do not require closure of existing impoundments that predated current law; they are grandfathered in. Coal ash monofills are considered by regulation to be "Class III residual waste landfills," or landfills "with the least degree of potential for adverse effects on groundwater and the least potential impact on public health, safety and the environment," so they are not subject to the more protective residual waste requirements such as composite liners.[9]

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[1] 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.

[2] U.S. Department of Energy's Energy Information Administration, Form EIA-767, Annual Steam-Electric Plant Operation and Design Data. 2005.

[3] 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).

[4] 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.

[5] *Id.*

[6] *Id.*

[7] ***See*** EPA, Final Determination of Identified Proven Damage and Recently Alleged Damage Cases [DCN SE01966], Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category
Docket No. EPA-HQ-OW-2009-0819-2212 (Sept. 18, 2012); Environmental Integrity Project ("EIP"), Earthjustice, and Sierra Club, *In Harm's Way* (Aug. 24, 2010), *available at* http://www.environmentalintegrity.org/news_reports/documents/INHARMSWAY_FINAL.pdf [hereinafter *In Harm's Way*] (Bruce Mansfield and Hatfield's Ferry); EIP & Earthjustice, *Out of Control* 76 (Feb. 26, 2010), *available at* http://www.environmentalintegrity.org/news_reports/documents/OutofControl-MountingDamagesFromCoalAshWasteSites.pdf [hereinafter *Out of Control*] (Elrama, Fern Valley, Mitchell, Phillips, Seward, Hunlock, Portland); *and*
EPA, Disposal of Coal Combustion Residuals from Electric Utilities Proposed Rule, 75 Fed. Reg. 35,128, at Preamble (June 21, 2010) http://www.regulations.gov/#!documentDetail;D=EPA-HQ-RCRA-2009-0640-0352 (Martin's Creek).

[8] Pennsylvania Department of Environmental Protection ("DEP"), Department of Waste Management, Form No. 13-A, Modification to Solid Waste Permit No. 300558 originally issued on September 25, 1995 (modified Apr. 3, 2014).

[9] *See generally* 25 Pa. Code §§ 287–89.