

## Kentucky and Coal Ash Disposal in Ponds and Landfills <sup>1</sup>

Operator	Plant	Facility	County
Louisville Gas & Electric Co.	Cane Run Power Station	5 ponds/landfill*	Jefferson
Duke Energy Kentucky Inc	East Bend	3 ponds/landfill*	Boone
East Kentucky Power Coop Inc	HL Spurllock Power Station	1 pond/landfill*	Mason
East Kentucky Power Coop Inc	Cooper Power Station	landfill*	Pulaski
East Kentucky Power Coop Inc	Dale Power Station (EKPC)	2 ponds	Clark
Kentucky Utilities Co.	Ghent Power Station	5 ponds	Carroll
Kentucky Utilities Co.	Green River Power Station	5 ponds	Muhlenberg
Kentucky Power Co	Big Sandy Power Station (KPC)	2 ponds	Lawrence
Kentucky Utilities Co	EW Brown Power Station (KUC)	2 ponds/landfill*	Mercer
Kentucky Utilities Co	Tyrone Power Station	2 ponds	Woodford
Louisville Gas & Electric Co.	Trimble County (LGEC)	1 pond/landfill*	Trimble
Louisville Gas & Electric Co.	Mill Creek Power Station	5 ponds/landfill*	Jefferson
Owensboro City of	Elmer Smith (OMU)	landfill*	Daviess
Tennessee Valley Authority	Paradise Power Station	3 ponds	Muhlenberg
Pineville	Pineville Station	1 pond	
Tennessee Valley Authority	Shawnee Power Station	2 ponds/landfill*	McCracken
Western Kentucky Energy Corp.	DB Wilson (WKEC)	landfill*	Ohio
Western Kentucky Energy Corp	HMP&L Station Two Henderson (Henderson II	1 pond/landfill*	Henderson
Western Kentucky Energy Corp	Kenneth C. Coleman (WKEC)	3 ponds/landfill*	Hancock

\* indicates one or more coal ash landfills.<sup>2</sup>

**Amount of coal ash generated per year:** Over 9 million tons. KY ranks 5<sup>th</sup> in the U.S for ash generation.<sup>3</sup>

According to a 2007 EPA risk assessment, 10 ponds and landfills in KY are unlined. Of these unlined sites, eight have no leachate collection systems and five have no groundwater monitoring systems.<sup>4</sup>

**Number of Coal Ash Ponds:** 43 ponds at 17 plants.<sup>5</sup> Kentucky has the third largest coal ash storage capacity (more than 64,000 acre-feet) in the nation.

**Pond Ratings:** Eight ponds are rated “high hazard.” Kentucky ties Ohio for the most high hazard dams (8) in the U.S. Six are rated “significant hazard.”<sup>6</sup> Nineteen are not yet rated.<sup>7</sup> Many (20 of 43) were not designed by a professional engineer, and most (27 of 43) were not constructed by one.

<sup>1</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>2</sup> U.S. Department of Energy's Energy Information Administration, Form EIA-767, Annual Steam-Electric Plant Operation and Design Data. 2005.

<sup>3</sup> U.S. EPA and United States Department of Energy (U.S. DOE). *Coal Combustion Waste Management at Landfills and Surface Impoundments, 1994-2004* (August 2006).

<sup>4</sup> RTI International. *Human and Ecological Risk Assessment of Coal Combustion Wastes, Draft* (August 6, 2007), prepared for the US Environmental Protection Agency.

<sup>5</sup> U.S. EPA. Database of coal combustion waste surface impoundments (2009).

**Age of Ponds:** 33 ponds are over 30 years old, and 9 of those are over 40 years old.<sup>8</sup> The age of these ponds makes it unlikely that they have safeguards like liners and leachate collection systems. In fact, a 2007 EPA risk assessment mentions 10 unlined coal ash ponds in KY.<sup>9</sup> Others may exist.

**Capacity and releases:** The EPA surface impoundment database contains storage capacity data for 19 of the 43 ponds in KY. These 19 ponds have a capacity of 88.5 million cubic yards. The 35 ponds for which size data are available cover an area of 1,857 acres. Five ponds at the Tyrone, Dale, E.W. Brown and Mill Creek power stations have had leaks or seepage, according to the EPA database. The pond at the Mill Creek Power Station has “major structural integrity issues.” This pond is rated a “significant hazard” in case of structural failure.<sup>10</sup>

**Damage Cases:** According to the U.S. EPA damage case assessment, potential damage cases include<sup>11</sup>:

- Cinergy East Bend Scrubber Sludge Landfill: EPA cites allegations that an estimated 300 tons of sulfate per year was leaking into the Ohio River from the landfill. EPA found on-site exceedances for total dissolved solids, iron, and sulfate.

Earthjustice, Environmental Integrity Project and Sierra Club, documented three additional sites contaminated by coal ash:<sup>12</sup>

- Louisville Gas & Electric, Mill Creek Station: Groundwater monitoring found arsenic, sulfate and TDS exceeding federal standards in a contaminant plume one mile wide, potentially endangering off-site use of shallow drinking water wells.
- East Kentucky Power Cooperative, Spurlock Power Station: Coal ash landfill has contaminated groundwater since at least 2005 with arsenic, iron, sulfate and TDS. Arsenic has reached 16 times the drinking water standard in an off-site well. The disposal site discharges to three receiving streams that flow into the Ohio River.
- TVA Shawnee Fossil Plant: Onsite groundwater is contaminated with arsenic, boron, selenium, sulfate and TDS exceeding federal standards and health advisories.

**Deficiencies of the Kentucky Coal Ash Regulatory Program:** State regulation of coal ash dams and landfills is minimal. There are no regular reporting requirements after dam construction, except for certificate renewal every five years. Operators are not given an inspection frequency and are not required to post a bond to ensure safe operation and maintenance or even completion of dam construction. Finally, Kentucky does not require emergency action planning or inundation mapping, which is astounding given the presence of eight high hazard dams that are likely to take human lives if they break and six significant hazard dams that would cause substantial economic and/or environmental damage in the event of failure. In addition, the state does not require composite liners at all ponds and landfills nor does the state prohibit dumping directly into the water table.

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<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> RTI International. *Human and Ecological Risk Assessment of Coal Combustion Wastes, Draft* (August 6, 2007), prepared for the US Environmental Protection Agency.

<sup>10</sup> U.S. EPA. Database of coal combustion waste surface impoundments (2009).

<sup>11</sup> U.S. EPA, Office of Solid Waste. *Coal Combustion Waste Damage Case Assessments* (July 9, 2007).

<sup>12</sup> Environmental Integrity Project, Earthjustice and the Sierra Club. In Harm’s Way: Lack of Federal Coal Ash Regulations Endangers Americans and their Environment, August 26, 2010, <http://earthjustice.org/sites/default/files/files/report-in-harms-way.pdf>.