South Carolina Coal Ash Disposal in Ponds and Landfills

Summary:[1]

Plant	Operator	Site	County
H. B. Robinson Power Station	Progress Energy Carolinas	1 pond	Darlington
W.S. Lee Power Station	Duke Carolinas LLC	2 ponds	Anderson
Cross Power Station	South Carolina Pub Serv. Auth	3 ponds	Berkeley
Dolphus M. Grainger Power Station	South Carolina Pub Serv. Auth	2 ponds	Horry
Jefferies Power Station	South Carolina Pub Serv. Auth	2 ponds	Berkeley
Winyah Power Station	South Carolina Pub Serv. Auth	6 ponds	Georgetown
Canadys Steam Power Station	South Carolina Electric & Gas Co.	2 ponds	Colleton
Urquhart Generating Station	South Carolina Electric & Gas Co.	2 ponds	Aiken
Wateree Generating Station	South Carolina Electric & Gas Co.	2 ponds	Richland
Cope Power Station	South Carolina Electric & Gas Co	landfill*	Orangeburg
Williams-ST	South Carolina Genertg. Co Inc	landfill*	Berkeley
McMeekin Power Station	South Carolina Electric & Gas Co	landfill*	Lexington
International Paper Eastover Facility	International Paper Co	landfill*	Richland
Stone Container Florence Mill	Smurfit-Stone Corp	landfill*	Florence

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

Amount of coal ash generated per year: Nearly 2.2 million tons. SC ranks 21th in the country for coal ash generation.[3]

The U.S. EPA has not yet gathered information on coal ash disposal in landfills, so a detailed breakdown is not yet available. However, according to a 2007 EPA risk assessment, six ponds and landfills are unlined, and one is clay-lined. Of these sites, six do not have a leachate collection system.[4]

Information on South Carolina Coal Ash Ponds

Number of Coal Ash Ponds: 22 ponds at 9 plants.[5]

Age of Ponds: 15 ponds are over 30 years old, and 2 of those are over 40 years old.[6] The age of these ponds makes it unlikely that they have safeguards like liners and leachate collection systems.

Capacity and releases: SC has 6 significant hazard-rated ponds. In fact, over 50% of the ponds in SC are large-capacity or have dam heights above 25 feet. The EPA surface impoundment database indicates that

[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, citing 2007 US Department of Energy, Energy Information Agency (EIA) database for electricity power plants from the Form EIA-860 "Annual Electric Generator Report."
[4] RTI International. *Human and Ecological Risk Assessment of Coal Combustion Wastes, Draft* (August 6, 2007), prepared for the US Environmental Protection Agency.
[5] U.S. EPA. Database of coal combustion waste surface impoundments (2009).
[6] *Id.*

the total storage capacity data of SC ponds is 15.52 million cubic yards. The ponds cover in total an area of 1223 acres. One of the ponds at the Winyah Creek Power Station experienced a wastewater leak in 2008.[7]

Cases of Coal Ash Contamination in SC (Damage Cases)*:* According to the U.S. EPA damage case assessment and EIP/Earthjustice damage case report, documented contaminated sites include[8]:

- South Carolina Electric & Gas Canadys Plant: "Basis for Consideration as a Proven Damage Case: Scientific - There are exceedances of the health-based standard for arsenic at this site. While there are no known human exposure points nearby, some recent exceedances have been detected outside an established regulatory boundary."[9]
- U.S. Department of Energy Savannah River Project: "Basis for Consideration as a Proven Damage Case: EPA has categorized this case as a proven ecological damage case for the following reasons: (1) Scientific evidence of impacts on several species in a nearby wetland caused by releases from the ash settling ponds."[10]
- South Carolina Electric & Gas , Wateree Station: Groundwater monitoring around the Wateree Station's coal ash impoundment measured arsenic at 18 times the federal primary MCL. Recent data shows that the arsenic contamination migrated to an adjacent property and is accumulating in biota in the Wateree River.[11]
- South Carolina Electric & Gas, Uruhart Station: Groundwater contamination has been reported at a coal ash landfill and two ash settling basins adjacent to the Urquhart Station. The landfill is located approximately 300 feet from the Savannah River, and the ash basins are located approximately 100 feet from the river. Arsenic and nickel concentrations have been greater than their South Carolina drinking water standards and the federal MCL for arsenic in at least one well at the coal ash landfill, and arsenic concentrations greater than the state drinking water standard and federal MCL in one well at the ash basins.[12]
- South Carolina Public Service Authority, Grainger Station: Leachate from fly ash ponds used by the Grainger Generating Station contaminated groundwater near the Waccamaw River with arsenic at up to 91 times the drinking water standard. [13]

Deficiencies in South Carolina Regulations: State laws are deficient when it comes to inspection and oversight of dams. Annual geotechnical inspections are not required of the operators, nor is the state required to even inspect the dams. With so many large dams in the state, it is imperative that regulators beef up both the contents and application of dam safety regulations. South Carolina regulations also fail to impose basic operating safeguards on both ponds and landfills. The state fails to require composite liners, groundwater monitoring, financial assurance for ponds, and fails to prohibit the placement of ash into the water table.

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[7] U.S. EPA. Database of coal combustion waste surface impoundments (2009).
[8] U.S. EPA, Office of Solid Waste. *Coal Combustion Waste Damage Case Assessments* (July 9, 2007).
[9] *Id.*
[10] *Id.*
[11] Environmental Integrity Project, Earthjustice and Sierra Club, In Harm's Way: Lack of Federal Coal Ash Regulations Endangers Americans and Their Environment, August 2010, available at http://earthjustice.org/sites/default/files/files/report-in-harms-way.pdf.
[12] *Id.*
[13] *Id.*