

The Kingston Fossil Plant itself has been in operation since 1955. Its nine coal-fired units have a total capacity of about 1,400 MW, according to the TVA.

In 2008, a dike at the Kingston coal ash pond collapsed and is considered by some to have caused the worst coal ash disaster in U.S. history. Some 1.1 million gallons of coal ash slurry spilled out into the Emory River and onto surrounding land, damaging structures.

The TVA spent more than \$1 billion on its Kingston coal ash cleanup.

The TVA has completed an amended supplemental Environmental Assessment that explains the expansion of the support area and considered the potential impacts. The final document and associated materials are available for review at www.tva.com/nepa.

TVA already has a construction permit for the next phase of the landfill. However, TVA has applied for other required permits through the Tennessee Department of Environment and Conservation, which includes a public hearing and comment period.

Sheldon Station has shown the Low Total Cost of Ownership of P84 bags

The Sheldon Station consists of two **Babcock & Wilcox** cyclone boilers burning Powder River Basin coal. Baghouses for each unit were constructed in 1999 and 2000, respectively, replacing ESPs. The bags are built to operate at 310F with a 3.5:1 cfm/ft² gas-to-cloth ratio. The dust loading is 0.97 grains per actual cubic foot (gr/acf) at the inlet and 0.005 gr/acf at the outlet.

Several alternative media configurations were evaluated during the initial startup of the baghouses. After six months of testing, P84 and P84 scrim were determined to be the most cost-effective configuration based on the plant's particle size distribution, temperature at the bag, and level of acid products in the exhaust gas. PPS (polyphenylene sulfide) filter bags were among those tested but filter bag life was only 24 months. Since the testing, the P84 bag life has averaged five years for Unit 1 and seven years for Unit 2 over the past 17 years. Over the operating life of the bags, average system pressure drop of 6 inches water column has been maintained with seven cleaning pulses of compressed air per hour.

Sheldon Station reports significant cost savings using P84 filter material in its baghouses over the past 17 years. The cost savings fall into two categories: increased energy sales and decreased replacement bag cost. Reduced pressure-drop through the P84 media reduced ancillary loads, principally reducing induced draft fan power by 87,000 MWh, saving \$6.1 million. Extended bag life when using P84 media also reduced the cost of replacement bags by \$1.5 million.

<https://www.powermag.com/improve-baghouse-performance-with-custom-filtration-media/?pagenum=2>

Babcock Power uses CFD simulation for LPA Screen Design

The efficient operation of SCR units requires good ash removal systems in place to deal with large particle ash. A CFD flow simulation study like the one described in this paper can confirm that hopper design, screen choice and placement are appropriate and optimum. Through CFD simulation, we have ensured that the velocity in the economizer outlet, hopper and LPA screen region are kept as low as possible and that the chosen outlet and hopper design produces a high aerodynamic capture rate for the popcorn ash particles. For the utility boiler considered here, the screen is made up of panels and based on the flow simulation results the screen panels near the top experience high velocity flue gas flow and more prone to erosion. A different material choice for these sections of the screen will ensure the screen has adequate life.