

PROJECT PROFILE

ENGINEERING SERVICES RELATED TO COMBUSTION ASH DISPOSAL

An uncontrolled release of combustion ash slurry from a disposal impoundment at the Kingston Fossil Plant in Tennessee occurred in December 2008. Following the uncontrolled release, the Tennessee Valley Authority (TVA), operators of the Kingston plant, retained consultants to evaluate the safety of other ash disposal facilities under its operation. D'Appolonia, under subcontract to Marshall Miller & Associates, Inc. (MM&A), evaluated selected wet ash disposal facilities as technical peer reviewers.

MM&A retained D'Appolonia for the peer review team because of our expertise in tailings dams and impoundments, problem ground conditions, and forensic investigations.



Above, below, and bottom of page: Combustion ash disposal impoundments that were included in the technical peer review of existing conditions evaluations and remedial designs conducted by D'Appolonia.



D'Appolonia reviewed: (1) the Root Cause Analysis report for the Kingston uncontrolled release, (2) safety evaluations of a sampling of other TVA wet ash disposal facilities, and (3) a white paper outlining procedures for seismic evaluations of the ash disposal facilities. Based upon this peer review, D'Appolonia provided findings and recommendations related to:

- Geotechnical investigation
- Shear strength characterization
- Seepage analysis
- Slope stability analysis
- Seismic evaluation and design,
- Constructability of stabilization plans

Over our more than 50-year history, we have provided design and permitting for numerous impoundments for coal refuse, combustion ash, and tailings disposal. We also provide inspections of dams and impoundments, and planning for expansion, decommissioning, and reclamation.

D'Appolonia lead a team that wrote MSHA's current design manual for coal refuse disposal facilities, which serves as the current industry standard. The manual includes sections that address combustion ash disposal at mine sites.