

# Coal-Fired Electric Plant Coal Bunker Fire

CTLGroup was retained by a power utility company to perform an emergency assessment at its coal-fired electrical power generation plant, due to an equipment fire.

The fire was confined to a coal bunker and ancillary coal transport equipment connected to the coal bunker. At the time of the incident, the suspected cause of the fire was reported to be spontaneous combustion of coal within the subject coal bunker. Firefighters reportedly contained the fire in approximately two hours. Method of containment was reportedly via water quench. Utility staff who witnessed the fire reported that the bottom portion of the hopper glowed from colors ranging from “cherry red” to “white.”

A CTLGroup Emergency Response Team comprised of a Principal Mechanical Engineer and Senior Metallurgist were dispatched to the power plant for performance of a site inspection and metallurgical review, in order to evaluate the post-incident soundness of the subject coal bunker. The Emergency Response Team performed an in situ inspection of the subject coal bunker upon arrival at the plant, then carefully cleaned the plates comprising the coal bunker using perchloroethylene and a wire brush to remove residual burned paint and prepare selected areas of the subject bunker for subsequent magnetic particle testing.

Both the in situ visual inspection and magnetic particle testing revealed no evidence of thermally induced cracks within the bunker plates. The Emergency Response Team also noted that thermal stresses from the fire and containment quench were not significant enough to cause significant distortion of the coal bunker plates, associated hardware, or ancillary transport equipment. Based on assessment of the visual evidence and metallurgical review of the raw materials comprising the coal bunker, hardware, and transport equipment, CTLGroup was able to opine as to the structural integrity of the subject coal bunker. Discussions with responsible utility power plant personnel resulted in performance of minor repairs and the resumed operation of the subject coal bunker, albeit at a reduced capacity and safety margin.

