

Use of Lime and Lime Kiln Dust to Stabilize Pondered Coal - Techniques and Results

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ABSTRACT: The recent failure of a dam for a coal ash impoundment has heightened the concern for this method of coal ash storage within the power industry and the regulatory agencies. Pondered ash if disturbed or if containment is lost can become unstable structurally and it can flow, causing physical damage and/or environmental contamination of adjacent lands and waters. The work presented will demonstrate methods of preparing mixtures of pondered coal ash stabilized with lime (CaO) and/or lime kiln dust (LKD, a co-product from lime production) to produce an engineered structural fill material. This engineered fill material can be used in the construction of dams for impoundments, for structural toe berms for dry ash landfills, as a structural mat to bridge over saturated, low bearing strength, pondered ash, and as a capping material to prevent water infiltration into the ash landfill, thus limiting the leachate from the coal ash. The work presented will describe proper steps to be taken in preparation of the fill area and the techniques for proper placement, compaction, and maintenance of the stabilized fill. The work presented will provide data demonstrating the structural and leachability properties from stabilized pond ash design mixtures.

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