

Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:
Lime Test Work Plan

Date submitted
11/10/2009

Submitted to whom
Leo Francendese

Concurrence

Received Not Applicable

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Approvals

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Date

11/10/09

EPA

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Date

11/11/09

consulted w/ TDEC

EPA approval contingent on Stantec's
concurrence that the proposed test on
the relic area does not interfere w/ Test
Embankment nor create unacceptable
safety risks.

cc:

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Lime Test Work Plan

1.0 Purpose

With recent difficulties in operating wet storage areas, there may be a need to add material to wet ash generated from sluice trench operations and from excavation operations to dry the ash. Lime is a suggested additive but there may be others. To determine how best to apply lime, several field tests are planned.

2.0 Design

The objective of any of the tests is to produce a product suitable for loading onto rail cars. The material may also be dry stacked in storage but the disposal criteria will drive the operations. Upon completion of the test, there should be enough information to perform a cost analysis on the proposed materials including cost of disposal. Information to be sought in the tests include the following:

1. Type of lime or other material to add.
2. Amount of lime or other material needed to be added for varying wet ash conditions; from very wet ash to ash around 32% moisture content.
3. Health and safety considerations during application.
4. Final state of the ash (should not be hardened).
5. Ideal methods for application to minimize the cost yet not create dust.

The ash will be tested for pH after 12, 24, and 120 hours as well as sampled for TCLP analysis once the ash has dried. Temperature of the ambient air will be recorded. If there is any decant water in a basin, that will also be sampled for pH.

3.0 Construction

The tests will be conducted both by Severson at the sluice trench on ash removed from that operation and by Civil Projects on ash found in the excavations east of Dike 2 or in the wet storage areas. The Severson application technique is in a basin using an excavator to mix. The Civil Projects application technique would be injecting or applying the lime on a surface of ash and tilling the additive into the ash. Civil Projects may use a subcontractor.

Varying wet ash conditions will be tested as well as varying types of limes and doses. In both cases, the condition of the treated ash will be evaluated 12, 24, and 120 hours after application. Dust control and safety requirements will be maintained at all times.

The tests will occur so as to control release of the added material to adjacent surface water bodies (including the rim ditch, sluice trench, site drainage and on site ponds). Storm water as well as water inherent in the ash will be controlled from the test area to not allow a discharge.

4.0 Schedule

This work will begin upon approval of this plan. It is anticipated that the earliest tests will occur between November 12 and November 20.

5.0 Waste Management

Although a request will be made to ADEM to allow disposal of lime treated ash in Alabama, the test will proceed without disposal approval. Therefore, the treated ash will be segregated from other ash until approval is received. If approval is not received, the ash will be used in onsite non-disposal required activities.

6.0 Health and Safety

The activities in this work plan will follow the site-wide health and safety plan. The greatest concern is dust generation. Health and safety personnel will review MSDS information about any product being applied and depending on the type of application, they may enhance PPE requirements. For dryer type applications, a water truck will be in the vicinity to reduce dust, should it occur.