Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:
Loading Work Plan

Date submitted
6/ 22 / 2009

Submitted to whom
Leo Francendese, EPA

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Loading Work Plan

1.0 Purpose of Work

The scope of this work plan is to describe the handling and loading of recovered ash from the TVA Kingston Fossil Plant Ash Release Response Project. Work to be performed includes the inspection of rail cars, preparation of rail cars, stockpiling and windrowing of ash, and loading of ash into rail cars.

Loading activities include, but are not limited to the following activities:

- Inspection and preparation of rail cars for loading for transportation to designated off-site disposal facilities.
- Provide and install fitted liners, "burrito" bags, tarps, etc. as required to ensure that ash remains in the rail car per applicable regulations until receipt for unloading at the designated disposal facility.
- Stockpiling and windrowing of ash in the transfer area to facilitate load out.
- Loading of ash into designated transport vehicles (rail cars).
- Control of fugitive dust and run-off from designated work areas.
- Prepare and provide shipping documents, marking, and labeling of rail cars in accordance with applicable Federal, State, and Local laws and regulations.

2.0 Design Components

There is no specific design for the loading operation. Characterization of ash to be loaded is addressed under a separate sampling and analysis plan.

3.0 Construction Management

Ash from the process area shall be stockpiled and windrowed along the rail tracks. Stockpiling and windrowing shall be accomplished utilizing standard construction equipment (dozers, front-end loaders, excavators, etc.). Stockpiled and windrowed ash from the processing area will be between 20 to 30-percent moisture content prior to stockpiling to ensure it meets DOT requirements for transportation as a solid. Paint filter tests will be run periodically to ensure appropriate moisture content. Additional working of the ash or drying time may be used or in the event that free liquids are discovered in loaded conveyances, approved drying agents may be added.

Windrowing of ash shall occur along each track at heights significant enough to permit the operator of an excavator to maintain a clear line of sight while loading rail cars and minimally in large enough configurations to provide material to achieve the designated capacity of each train.

As rail cars are loaded, operators will push material behind the loading operation to re-build windrows for the next set of rail cars. Windrows shall be sloped such that stormwater will be directed back toward the transfer area. Water truck access to the stockpile will be provided through an interior haul road.

Prior to loading ash, rail cars shall be inspected for integrity. ***Prior to the performance of an inspection, personnel must verify that rail spurs are locked out ("Blue Flagged") in***

accordance with established site procedures. The inspection of rail cars shall include at a minimum, the following:

- Rail Car physical integrity (no holes, damage, general appearance is satisfactory). Integrity includes, however is not limited to: burrs, rips, tears, or holes in the rail car which may damage packaging systems utilized.
- Rail car is not previously placarded. If placarded, placards removed or defaced upon knowledge previous of rail car contents and understanding that it is acceptable to do so.
- There is no soil, material, or debris within the rail car.
- Rail car markings are readily readable.
- Rail car tare and load weight markings are visible and readable.
- PRIOR TO LINING: Ensure water is removed from the car, when present, and verify drain holes are plugged (when applicable) properly with approved expansion foam.

Currently, there are two types of lining and containment systems to be used for the transportation of ash. One system consists of a fitted polyethylene liner and a tarp. The other system utilizes "Burrito" style bags of varying mil thickness. The "Burrito" style bags are self contained systems which do not require a tarp. These systems could be modified in the future as long as the selected method contains the ash. Following inspection, each rail car shall be lined. Lining will occur in the rail yard or on the newly constructed rail spurs. Lining is performed by first placing an individual liner in each car. This may be accomplished manually or through the use of construction equipment such as an extended boom fork lift, front-end loader, or excavator.

Once the liner is in the rail car, personnel will access the rail car through the use of approved ladders or a man-lift. Once in the rail car, personnel will roll-out or unfold the liner depending upon the type and manufacturer of the liner used. The flaps, or in the case of the fitted liners the sides, are extended over the ends and side of the rail car. When necessary, based on weather conditions (i.e. wind), the sides or flaps of the liner may be secured to the rail car with tape, straps, cords, or other means (so long as the rail car is not altered) necessary to prevent the flaps or sides from falling back into the rail car during loading.

Once the liner is in place, and verification that all personnel are safely out of the rail car, loading of may start. Ash stockpiled or windrowed for loading shall be loaded using standard construction equipment (i.e. excavators and front-end loaders). Two excavators will be equipped with scales for weighing material during loading. Scales are being utilized to ensure that rail cars are loaded within acceptable weight tolerances. The weight limit of the gondola rail cars to be provided is 110-ton.

When fitted liners are utilized, rail cars will be covered with tarps. Tarps will be installed by personnel in accordance with the manufacturer recommendations. Personnel may utilize approved ladders, platforms, man-lifts, or other means in accordance with applicable safety standards to secure tarps.

When flap-style "burrito" liners are used, the liners will be secured in accordance with manufacturer recommendations. Installation instructions for various styles of "burrito" style liners vary depending upon the closure mechanism (straps, zipper, cords, etc). Closing will occur

primarily through the use of man-lifts. Ladders can be used when necessary and in accordance with applicable safety rules and regulations.

Prior to removing rail cars from the loading spurs, the exterior of the rail cars (safety appliances, rail car connections, etc.) will be cleaned, as necessary, utilizing mechanical means such as the use of brooms. Cleaning can occur during (removal of material which may be present on the top rail) and after the final closure of the packaging system utilized.

Throughout the process, placards shall be placed on each rail car.

4.0 Schedule

The loading operation is anticipated to start the week of June 22, or when permission to dispose is granted. The operation will continue as long as material needs to be disposed offsite.

5.0 Waste Management

No waste will be generated by this work.

6.0 Health and Safety

Dust control is required. The operation will be suspended if dust plumes are visible until controls are established to prevent releases. A full-time water truck is dedicated solely for the purpose of dust control. The haul route for the water truck will be established on a daily basis to ensure effective coverage of active work areas. Minimally, it is anticipated that the route of the water shall include the ability to wet windrows of ash throughout the loading process. The moisture content of the ash delivered from the processing area and weather conditions will be considered routinely and will dictate dust suppression routes.

Dust control shall be implemented to prevent visible dust emissions and avoid the creation of run-off. For loading, material must have the capability to pass a "paint filter" test. So excessive water application must be avoided.

Ash that is not actively being worked (stockpiled, windrowed, or loaded) will be tracked using heavy equipment (primarily dozers) to provide a reasonably hard enough surface to limit the infiltration of stormwater and the creation of dust.

To date, over 3,000 integrated air samples have been collected and analyzed for total dust, respirable dust, crystalline silica, and metals. None of the results have exceeded currently established occupational exposure limits established on the site. Samples were collected from a variety of activities including heavy equipment operators, truck drivers, laborers and flaggers. It is anticipated that similar positions will exist during the loading activity, specifically heavy equipment operators, laborers and flaggers. Based on the similarity of the exposure groups, the results to date can be used as a representative initial exposure assessment for loading activities.

Following the Site-Wide Safety and Health Plan, once the loading activities are normalized, actual exposure groups will be established based on specific job function and task. Each exposure group will be sampled until it can be statistically determined that exposures for each group are characterized to a 95% confidence level.

The following actions will be taken in the event elevated results are identified for any or all exposure groups sampled:

- If a site Action Level (as defined in the Site-Wide Safety and Health Plan) is exceeded, engineering controls or work methodologies will be adjusted in an attempt to control exposures. In addition, medical monitoring protocols for the associated contaminant(s) will be implemented.

- If site Exposure Limits are exceeded, personal protective equipment will be upgraded to level C. Engineering controls and adjustment to work methodologies will be implemented when possible in an effort to eliminate the need to wear Level C PPE.

All personnel working near the railroad will receive TVA Rail Safety Training. A minimum distance of one rail car must always be present between the loading operation and lining activities when both activities are performed on the same track or spur. As an additional protective measure, a flag shall placed in or on the rail car during lining, the flag shall be positioned such that is visible to those working outside of the rail car, primarily operators. Prior to loading, each rail spur shall be "Blue Flagged" in accordance with site procedures.