# Memo



To:	Ron Skelton - TVA	From:	Joshua Kopp – Stantec Randy Roberts, PE - Stantec
File:	175559008 (Task 350.2)	Date:	September 20, 2010

### Reference: JOF – Active Ash Disposal Area Southeast Dike Stability Improvement Project Contingency Plan

### Purpose

The purpose of this Contingency Plan is to provide guidance to the Contractor in the event that construction improvements to the Southeast Dike adversely impact dike integrity. This document lists specific construction activities and the corresponding events which may impact dike integrity. For each event listed, 'contingency' actions are described to mitigate the impact to the dike. These contingency actions should be implemented immediately upon noticing any of the adverse events described below. However, they are considered temporary and if any of the adverse events described below take place a Stantec geotechnical engineer should be contacted immediately.

#### General Description of Project

This project is part of the dike stability improvements for Ash Disposal Area No. 2 (Active Ash Disposal Area). The purpose of this project is to increase the slope stability factors of safety of the Southeast Dike to at least 1.5. This will be accomplished by constructing a riprap buttress along the slope of the lower bench and placing soil fill to flatten the existing dike slopes. Additional activities include installation of a lower bench access road, tree and brush removal, and drainage filter installation.

### Adverse Events and Contingency Actions

The activities listed below are discussed because it is believed they are the most likely to have potential adverse impacts to the dike. However, this does not mean that other construction activities cannot cause adverse impacts. The Contractor should always be aware of how their activities are impacting the dike and use common sense when performing them. If they feel uncomfortable about performing a construction activity they should discuss the issue with a Stantec geotechnical engineer.

#### Rootwad Removal

A significant number of trees will be removed from the lower bench area and the lower portion of the dike. The process to remove these trees and rootwads is outlined in the Technical Specifications for this project. When the rootwads are removed, a seepage

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September 20, 2010 Page 2 of 3

path could be exposed that was not previously there. The following contingency actions should be taken when removing rootwads (primarily on the dike).

- Maintain a stockpile of concrete sand and No. 57 crushed stone nearby when removing rootwads.
- If flowing seepage water is noticed when a rootwad is removed, immediately pack the void with concrete sand.
- After sand has been placed in the void, place a one-foot layer of No. 57 crushed stone over the sand to provide extra weight.
- Contact the Stantec on-site construction technician for an immediate assessment.
- Contact a Stantec geotechnical engineer immediately.

## Slope Benches

To obtain a proper bond between existing soil and new soil fill, slope benches will be excavated into the dike to provide a horizontal surface to place the new fill. These benches will be minimal in height (two feet) and will be backfilled each day before the Contractor leaves site. However, during this activity, there is a chance the bench could slip causing a localized portion of the dike to become unstable. Also, similar to rootwad removal, excavation into the dike could expose new seepage paths. The following contingency actions should be taken when cutting slope benches into the dike.

- Maintain a stockpile of concrete sand and No. 57 crushed stone nearby that is easily accessible.
- If the vertical face of the bench slips or appears to be moving, immediately place and pack crushed stone over that section.
- If flowing seepage water is noticed when a bench is excavated, immediately backfill the bench with concrete sand.
- After sand has been placed over the bench, place a one-foot layer of No. 57 crushed stone over the sand to provide extra weight
- Contact the Stantec on-site construction technician for an immediate assessment.
- Call a Stantec geotechnical engineer immediately.

## Riprap Buttress

The existing material along the bank of the Condenser Water Inlet Channel consists of some soft material. The weight of the material used to construct the riprap buttress may induce some settlement or minor slumping along the channel bank. The following contingency actions should be taken when placing material along the channel bank.

- Place riprap in lifts not exceeding three feet thick throughout the entire length of the riprap buttress prior to starting a subsequent lift. If segments of the buttress are completed sooner than others, wait at least 48 hours before placing additional lifts.
- If there is noticeable settlement or slumping in an area, move all equipment and stockpiles away from the area.
- Set up survey monitoring points in the area of settlement and in the adjacent areas that have not settled. Obtain initial elevations of each point.

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September 20, 2010 Page 3 of 3

- Contact the Stantec on-site construction technician for an immediate assessment.
- Call a Stantec geotechnical engineer immediately.

### Summary

Construction activities have potential to have adverse impacts on dike stability. This document provides guidance to the Contractor on immediate actions to be implemented upon observation of these events. After these initial actions have been taken, the Contractor should contact the Stantec onsite construction technician for an immediate assessment and then contact a Stantec geotechnical engineer. The names and phone numbers of the persons to be contacted are listed below (in order of whom to call first).

Randy Roberts, PE502-396-1218Stephen Bickel, PE502-558-0319Joshua Kopp859-816-3539Norman Puckett502-262-5919 (for immediate on-site assessment)

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