

Summary of 2007 (Fiscal Year 2008) Ash Pond Dike Stability Inspection Report

This summary is organized into two parts:

1. A summary of the Dredge Cell Findings
2. Recommendations (Separated further into sections that describe Recommendations for the Dredge Cell and Recommendations for Other Areas)

1. Dredge Cell Findings (Summarized)

The interior of Dike "C" was showing some signs of erosion at the water line. Waves and rain water will erode (eat away) at the dike if not properly covered. Rip rap is a normal recommendation for this.

"The seeps along the toe of Dike C and below the toe of the dike along the intake channel, known since the early 1980s were not visible during this inspection." These seeps are not near the Dredge Cells but located at the Northeast corner of the Ash Pond and along the Intake Channel. They are not active seeps that are seen every year. There have been years where seeps are not spotted at all in these areas as mentioned in this report. Once a seep/wet spot is documented, it is checked each year, regardless if it was seen the prior year or not.

The dredge cells were inspected and found to have no issues in the areas of repairs from the 2003 and 2006 failures. Due to poor bench drainage, repairs were underway to reslope the benches and add drains. This was to keep rainwater from ponding on the benches and also causing possible erosion. Dredging was stopped in November of 2007 based on recommendations by EDS and Geosyntec. This was to allow the water levels in the cells to drop and also not add extra water during the winter months. The report also states that lowering the water level would also reduce the chances of another "blowout". The blowout is referring to the previous failures that happened in 2003 and 2006.

Several areas of wheel ruts and erosion were spotted along the dikes. These are repaired by filling the areas with clay or bottom ash and compacting them so the water will drain off properly. They are not a threat to dike stability unless unattended.

Recommendations:

Related to the Dredge Cell:

- Repair any dikes showing signs of erosion on the pond side. Erosion ditches larger than a standard railroad crosstie should be repaired with compacted bottom ash. Repeated repairs in the same location calls for riprap stabilization. EDS-Civil will assist in sizing the riprap and setting the limits if needed.
- Dredge cell drainage ditches should be kept free of cattails so they will flow as well as possible. Any existing cattails should be removed.

- Install a third spring box on the side of the Dredge Cell paralleling Swan Pond Road. This will provide controlled relief of excess pore water pressure and allow an additional release of water from the dikes.
- Remove trees from the slopes of the dikes. Mowing at least twice a year is recommended to control the size of the trees. Preventing the trees from getting larger than 1" in diameter at the ground is preferred. Any trees larger than 3" in diameter at the base must be pulled from the dikes, roots and all. Repair and reseed the damaged area.
- Continue intermittent dredging into the interim dredge cell to inhibit fugitive dusting.

Other Areas Not Related to the Dredge Cell:

- Monitor the limestone drain area and all exterior dike slopes (along Swan Pond Road in particular) for seepages, soft wet spots, animal burrowing, sloughing, etc., and report any changes to Jamey Dotson of FPG Engineering Design Services, 423-751-6421.
- Remove vegetation growing inside spillway structures.
- Investigate the use of spraying to inhibit vegetation growth on the interior dikes of the stilling pond.
- Remove ash floating on the surface of the ash and stilling ponds.
- Repair rutting in the access and dike roadways. Fill with bottom ash and regrade as required to promote drainage.
- Dredge the Coal Yard Drainage Basin to restore its design contours and protect the pumps from further damage. There is an estimated 2,800+ cubic yards of sediment in the original pond and an extra 3,400+ cubic yards in the "V" section that needs to be removed as soon as reasonable. See the attached copy of 10W225-2.
- Re-establish riprap check dams in the coal yard drainage basin to prevent solids away from the pumps.