Coal Combustion Waste Impoundment Evaluations in Illinois

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Background – Kingston TN Disaster

• 12/22/08 1:00 am –coal combustion waste (CCW) impoundment in Kingston, TN failed

• Failure was a major environmental disaster...
  – 1.7 million yds^3 at 300 acres of coverage
  – 42 homes damaged, no loss of human life
  – $850,000 cleanup costs (100 Exxon Valdez ships)
  – 6.5 inches of rain Dec 1> Dec 22 (cold temperatures)
Background – EPA Reacts

- EPA is primarily concerned with public safety.
- Agency wants answers to several basic answers related to public safety.
- Initially, EPA sent letters to all power plants that burn coal in the US.
- Most plants that burn coal put the waste into a slurry and store it in a pond.
- Release water from pond generally regulated via NPDES permit.
EPA Starts “Rounds” of Assessments

• EPA orders evaluations of all high-hazard CCW impoundments in US

• “Round One” included two sites in Illinois
  – Havana;
  – Wood River.
Assessment Report Deliverables

• Arrange a Site visit (about one day)
  take pictures, request geotechnical info
• Submit a checklist to EPA (one week later)
• Submit a full report (one month later)
• EPA comments back
  • Consultant responds to all comments
Checklist Overview

- Identify the Site, Operator, Hazard Potential
- Complete checklist of mainly geotechnical aspects
Checklist Overview

- **LOW HAZARD POTENTIAL**: Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner’s property.

- **SIGNIFICANT HAZARD POTENTIAL**: Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

- Low hazard means failure causing property losses
- Significant Hazard Potential = environmental damage
• “Typical” two Pond CCW location

• Photographs and site operations are documented.
Havana

• Owner: Dynegy Midwest
• IL DNR Dam Safety Division has a permit file for Havana
• Plant and CCW impoundment facilities are in town of Havana
• Site visit performed May 2009
• Photos follow
Havana Photo – home near toe of embankment
Havana Photo – other development near toe of impoundment
Havana Photo – Fly Ash
Havana Conclusion

• CCW impoundments designed and maintained according to industry standards
• Dynegy cooperated fully with team
• Full report is on EPA website:
  • http://www.epa.gov/epawaste/nonhaz/industrial/special/fossil/surveys2/index.htm
• No safety issues identified
Wood River

- Owner: Dynegy Midwest, Inc.
- Generating facility and CCW Impoundments not located in residential area
- IL DNR Dam Safety Division has a permit file for Wood River
- Site visit performed May 2009
- Photos follow
Wood River photo – plant entrance road at toe of CCW impoundment
Wood River – few industrial structures near toe
Wood River Conclusion

• CCW impoundments designed and maintained according to industry standards
• Dynegy cooperated fully
• Full report on EPA website:
• No safety issues identified
Questions? Call this guy!

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