

# Regulatory Conference

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## Kewaunee Turbine Building Flooding Issues



Nuclear Regulatory Commission - Region III

Lisle, Illinois

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# Introduction and Opening Remarks

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# Agenda

1. Introduction and Opening Remarks
2. Overview of Event and Inspection Finding
  - a. Description of Flooding Issues
  - b. Description of Performance Deficiency
  - c. Preliminary Safety Significance Determination and Apparent Violation
3. Licensee Presentation
4. NRC Caucus
5. Closing Remarks

# Description

- Scenario: Large rupture of pipe or tank in turbine building
- Flood water enters “safeguards alley” due to insufficient barriers (doors, drains) and affects equipment vital to safe shutdown
- Susceptible Class I Equipment: AFW, ESF busses, EDGs, safe shutdown panel
- Past precedent: May 2003 tank overflow resulted in turbine building sump overflow; water flowed into safeguards alley trench; extent of condition and corrective actions inadequate
- Extensive modifications made including: robust flood barriers, drain line check valves, circulating water pump trips

# Performance Deficiency

- Failure to meet requirement
  - 10 CFR 50, Appendix B, Criterion III, “Design Control”
  - Requires, in part, adequate measures be established to assure that design basis for safety-related SSCs are correctly translated
  - Requires, in part, measures to verify and check adequacy of design
- Cause within licensee’s ability to foresee and correct
  - 1972 letter to AEC stating, in part, that non-Class I pipe breaks could affect Class I equipment, however, plant design (redundancy, design arrangement) would not be jeopardized in the event of a pipe break
  - Safeguards alley trench flood due to turbine building flooding in May 2003

# Safety Significance Determination (Preliminary)

- Phase III Analysis (IMC 0609, Appendix A)
  - Multiple trains of equipment degraded
  - Licensee's preliminary evaluation resulted in change in CDF representative of Yellow safety significance
  - Several assumptions under NRC scrutiny
- Preliminary Greater-than-Green Finding and Apparent Violation of 10 CFR 50, App. B, Criterion III, "Design Control," issued October 6, 2005

# **Licensee Presentation**

# **NRC Caucus**



# Closing Remarks

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