

June 12, 2007

MEMORANDUM TO: Jennifer L. Uhle, Deputy Director  
Materials Engineering  
Division of Fuel, Engineering, and Radiological Research  
Office of Nuclear Regulatory Research

THRU: Robert Hardies, Chief **/RA/**  
Component Integrity Branch  
Division of Fuel, Engineering, and Radiological Research

FROM: Mauricio Gutierrez, General Engineer **/RA/**  
Component Integrity Branch  
Division of Fuel, Engineering, and Radiological Research

SUBJECT: SUMMARY OF THE MAY 31 – JUNE 01, 2007, CATEGORY 2 PUBLIC  
MEETING BETWEEN THE NUCLEAR REGULATORY COMMISSION  
STAFF AND THE EXPERT PANEL FOR THE WOLF CREEK  
ADVANCED FINITE ELEMENT ANALYSES (FEA)

On May 31 and June 1, 2007, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a Category 2 public meeting with industry representatives at Dominion Engineering, Incorporated in Reston, VA. A list of attendees, industry presentations, the NRC contractor presentation, and NRC staff presentation are enclosed. The meeting was a continuation of ongoing discussions between industry representatives and NRC staff regarding the NRC staff's questions about the likelihood that rupture may occur without prior evidence of leakage in pressurizer nozzle dissimilar metal welds susceptible to primary water stress corrosion cracking.

The meeting specifically addressed several key technical issues such as: weld residual stress (WRS) modeling, elastic-plastic fracture mechanics (EPFM) vs. limit load analysis, the role of secondary stresses, K-solution verification, finite element modeling convergence, and the industry proposed sensitivity matrix, acceptance criteria, and safety factors. Consensus was reached on K-solution verification, the inclusion of secondary stresses, and finite element model convergence. Discussions are ongoing with regards to EPFM vs. limit load to calculate critical crack size. The NRC staff provided comments on industry's proposals regarding acceptance criteria and safety factors and indicated that it would be developing acceptance criteria and safety factors that it plans to use to evaluate the industry results.

J. Uhle

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No members of the public were present at the meeting. The information discussed was non-proprietary. Please direct any inquiries to me at 301-415-1122 or [mrg3@nrc.gov](mailto:mrg3@nrc.gov).

Enclosures:

1. List of Attendees
2. Dominion Engineering Presentation
3. Westinghouse and Combustion Engineering Repairs History Presentation
4. Quest Reliability Presentation
5. Structural Integrity Presentation
6. EMC<sup>2</sup> (NRC Contractor Presentation)
7. NRC Staff Presentation
8. Westinghouse Presentation on Plants C and F Repair History

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**Nuclear Regulatory Commission Meeting**  
**with the**  
**Expert Panel for Wolf Creek Finite Element Analysis**  
**May 31, 2007 and June 1, 2007**

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Aladar Csontos  
Simon Sheng  
Tim Lupold  
Dave Rudland (NRC Contractor)  
Mauricio Gutierrez

**INDUSTRY**

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Tim Gilman, Structural Integrity  
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