March 22, 2007

MEMORANDUM TO: Stacey L. Rosenberg, Chief
Special Projects Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

FROM: Tanya M. Mensah, Senior Project Manager **/RA/**
Special Projects Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE MARCH 7, 2007, CATEGORY 2 PUBLIC MEETING RE: MEETING WITH THE NUCLEAR ENERGY INSTITUTE (NEI) TO DISCUSS IMPLICATIONS OF WOLF CREEK DISSIMILAR METAL WELD INSPECTIONS (TAC NO. MD0694)

On March 7, 2007, a Category 2 public meeting was held between the U. S. Nuclear Regulatory Commission (NRC) staff and industry representatives at NRC headquarters. A list of attendees is enclosed. The purpose of this meeting was for the industry representatives to present its plans for performing advanced finite element fracture mechanics analyses and for the NRC staff to provide any comments or concerns on those plans. The March 7, 2007, meeting was the fourth public meeting related to the Wolf Creek pressurizer nozzle weld flaws found in October 2006. The first public meeting to discuss this topic was held on November 16, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML063320131). The second public meeting to discuss this topic was held on November 30, 2006 (ADAMS Accession No. ML063560371). The third public meeting to discuss this topic was held on December 20, 2006 (ADAMS Accession No. ML070330381).

The NRC staff opened the meeting by providing a summary of its conclusions discussed at the December 20, 2006, public meeting. Specifically, as a result of the NRC staff's analyses, the NRC staff concluded that the schedule for inspection or mitigation of pressurizer nozzle welds needed to be accelerated for some plants. The NRC staff also indicated that it expected plants that had not inspected or mitigated these welds to put enhanced leakage monitoring measures in place. The NRC staff indicated that these actions were necessary because of the safety concern that if primary water stress corrosion cracking (PWSCC) occurs in the smaller pressurizer nozzle welds, rupture could occur before leakage would become evident. The NRC staff stated that industry representatives planned to perform advanced finite element fracture mechanics analyses as a result of the NRC staff's conclusion that there may be essentially no time between leakage and rupture for smaller diameter welds. The NRC staff's presentation concluded that if industry's advanced analyses provides reasonable assurance to NRC staff that PWSCC will remain stable, and not lead to rupture without significant time from the onset of detectable leakage, that plants with 2008 outages will not have to shutdown in 2007. A more detailed summary of the NRC staff's presentation is provided in its presentation slides (ADAMS Accession No. ML070720277).

Presentations provided by the industry representatives included a summary of its plans to obtain consensus among knowledgeable experts regarding the assumptions applied within the advanced finite element fracture mechanics analyses. Industry representatives shared plans to show that more time does exist and that PWSCC will remain stable, and not lead to rupture without significant time from the onset of detectable leakage. The industry representatives plan to utilize a software code called, “Finite Element Analyis (FEA) - Crack Software,” to conduct more extensive analyses of the issue. The purpose of the industry representative’s presentations were to gain concensus among industry and NRC staff experts regarding the analysis framework, software benchmarking and validation, and the various input assumptions that will be utilized within the software to possibly demonstrate that more time exists from the onset of detectable leakage until rupture. During these discussions, NRC representatives raised concerns regarding aspects of the industry’s planned analyses related to critical crack size determination; specifically, the appropriate material to use for the stress strain curve, inclusion of thermal stresses, and use of elastic-plastic fracture mechanics. The resolution of these concerns will require further discussion and analyses. A detailed summary of the industry representative’s presentations are provided in its presentation slides (ADAMS Accession No. ML070720249 and ML070670469).

After the analysis framework and related analysis issues were discussed, industry representatives and the NRC staff briefly discussed a draft communication protocol (ADAMS Accession No. ML070740724). The communication protocol deals with how the parties will interact with respect to holding future teleconferences and public meetings throughout the various phases of the industry analysis. The purpose of the communication protocol is to ensure that there is a common agreement on interfacing with each other. The NRC staff requested that industry representatives provide comments on the draft protocol.

Members of the public were in attendance. No public meeting feedback forms were received.

Project Nos. 669 and 689

Enclosure: List of Attendees

cc w/encl: See next page

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ADAMS Package Accession No. ML070790257
Meeting Notice Accession No. ML070510644
Meeting Handout Accession Nos. ML070720277, ML070720249, ML070670469, ML070740724
Meeting Summary Accession No. ML070740752 NRC-001

OFFICE	PSPB/PM	PSPB/LA	DCI	DCI/BC	PSPB/BC
NAME	TMensah	DBaxley	TSullivan	TChan	SRosenberg
DATE	3/ 20 /07	3/20/07	3/ 20 /07	3/ 21/07	3 / 22 /07

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List of Attendees for March 7, 2007	
Name	**Organization**
Ted Anderson	Quest Reliability
Warren Bamford	Westinghouse
John Broussand	Dominion Engineering
Aladar Csontos	NRC
Guy DeBoo	Exelon
Joe Donahue	Progress Energy
Tim Gilman	Structural Integrity
Gary Hammer	NRC
Bob Hardies	NRC
Craig Harrington	Electric Power Research Institute (EPRI)
David Harris	Structural Integrity
Daniel Horner	McGraw-Hill
Kaihwa Hsu	NRC
Doug Killian	AREVA
Mike Melton	NEI
Tanya M. Mensah	NRC
Deann Raleigh*	Scientech, LLC
Pete Riccaroella	Structural Integrity
Jim Riley	Nuclear Energy Institute (NEI)
Simon Sheng	NRC
William Sims	Entergy
David A. Steininger	NEI
Tom Sutton	Southern Nuclear
Edmund Sullivan	NRC
Dennis Weakland	First Energy
Glenn White	Dominion Engineering, Inc.
Ken Yoon	AREVA NP

* David Rudland (NRC Contractor) Participated Via Teleconference

ENCLOSURE

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Electric Power Research Institute

Project No. 689
Project No. 669

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