

January 15, 2009

MEMORANDUM TO: Mike Scott, Chief
Safety Issues Resolution Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

FROM: Steve Smith, Reactor Systems Engineer /RA/
Safety Issues Resolution Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF TELECON ON DECEMBER 16, 2008, BETWEEN
NUCLEAR REGULATORY COMMISSION STAFF, WESTINGHOUSE,
AND THE NUCLEAR ENERGY INSTITUTE ON LICENSEES
CREDITING REDUCED ZONES OF INFLUENCE BASED ON
WESTINGHOUSE TEST REPORTS

Participants:

Mike Scott – NRC	Clint Shaffer - Ares
Ralph Architzel – NRC	John Butler - NEI
Joe Golla – NRC	Tim Andreychek – Westinghouse
John Lehning – NRC	Ron Holloway – Wolf Creek
Steve Smith – NRC	George Howard - FPL
Brian Dunn – FPL	

Background:

The Nuclear Regulatory Commission (NRC) staff has been reviewing licensee supplemental responses for Generic Letter 2004-02. The staff noted that several licensees are crediting significantly reduced zones of influence (ZOIs) for debris generation (reduced from the default values tabulated in the NRC Safety Evaluation (SE) of Nuclear Energy Institute (NEI) 04-7) following a Loss of Coolant Accident. These reduced ZOIs are based on Westinghouse jet impingement test reports. Because of the large number of licensees crediting reduced ZOIs based on the Westinghouse test reports, the staff determined that it would be advantageous to review the issue generically instead of individually for each plant that credited the testing. The staff commissioned a contractor to review two of the Westinghouse test reports. The review is currently ongoing. The contractor provided a draft report to the staff that identified potential areas of non-conservatism in the Westinghouse testing. Based on the draft report, the contractor and staff developed a list of questions regarding the testing and evaluation of the testing. These draft questions were forwarded to Westinghouse for review prior to the call.

CONTACT: Stephen Smith, NRR/DSS/SSIB
301-415-3190

Summary:

The phone call began with introductions. NEI questioned whether the staff had reviewed its previous approval of use of the American National Standard Institute (ANSI) American Nuclear Society (ANS) model for jet expansion. The staff responded that they had reviewed the SE that was written on the NEI guidance (NEI 04-7) in the area of debris generation, specifically the use of the ANSI/ANS jet expansion model. NEI stated that industry believes that the previous approval of this model in the SE allows its use in the evaluation of the test results of the tests that are currently under review. The staff stated that the model was specifically allowed to be used for the determination of ZOI volumes in the plant based on translation of freely expanding jets into spherical volumes for both practical analysis reasons and to account for reflections and debris damage. The staff also noted that the approval of the use of the model was conditional to this application, and not a generic approval, which is noted in the SE (e.g., page 31).

NEI suggested that since the NRC staff had reviewed and approved a WCAP (Westinghouse Topical Report) on coatings debris generation testing, which was conducted using inputs similar to the insulation debris generation WCAPs, that the test conditions should also be valid for insulation targets as well as the coatings targets. The staff stated that there were significant differences in damage mechanisms between coatings and insulation. Although the staff did not identify the test conditions as inappropriate for coatings testing, due to the difference in damage mechanisms, the staff has not reached a similar conclusion for insulation debris generation testing.

NEI recommended that the staff and industry representatives meet to conduct a detailed discussion of the issues that the staff identified with respect to the testing conducted for insulation debris generation. Westinghouse indicated that they would have adequate technical responses for the majority of the issues identified by the staff. The meeting was tentatively scheduled for January 13, 2009 at the Westinghouse offices in Rockville.

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