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LTR-NRC-10-24

March 30, 2010

Subject: Closure of Westinghouse Interim Report Log No. 2010-05

Reference: 1) Letter from J. A. Gresham to U.S. NRC Document Control Desk, LTR-NRC-10-10, "Interim Report of the Evaluation of a Deviation Pursuant to 10CFR21.21(a)(2)," dated February 12, 2010

Gentlemen:

Westinghouse submitted an Interim Report (Reference 1), pursuant to the requirements of 10 CFR Part 21, regarding an evaluation of reportability which could not be completed within 60 days from the discovery of the deviation or failure to comply. The issue evaluated by Westinghouse concerns a discrepancy in the test rig used to perform jet impingement tests to determine the Zone of Influence (ZOI) within which the jet is assumed to create debris. Two different choke points upstream of the nozzle had smaller inner diameters (IDs) than the nozzle itself.

The purpose of this letter is to close Interim Report Log No. 2010-05.

If you have any questions regarding this matter, please contact me at (412) 374-4643.

Very truly yours,

James A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Attachment

IE19
NRR

Interim Report Log No. 2010-05 (Closeout)

SUBJECT:

Closure of Interim Report Log No. 2010-05 regarding an evaluation of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)

TITLE:

Inconsistency Between Test Assumptions and the Test Rig Configuration Used for GSI-191-Related Jet Impingement Zone-Of-Influence (ZOI) Tests

BASIC COMPONENT SUPPLIED BY:

Westinghouse Electric Company

NATURE OF DEVIATION:

ZOI tests performed for Westinghouse at Wyle Labs assumed the smallest diameter in the nozzle producing the jet to be at the nozzle. Two different choke points upstream of the nozzle were found to have smaller inner diameters (IDs) than the nozzle. This inconsistency resulted in undersized ZOIs being proposed in test reports (WCAPs) supplied to utilities. Undersized ZOIs could result in an incorrect debris volume being used in subsequent utility analyses.

EVALUATION:

Calculations were performed to determine the expected change in ZOI due to the different diameter of the upstream choke points. These calculations assumed that the location of the nozzle was still the appropriate point to measure distance to the target for ZOI determination. Then, instrumented jet expansion tests were performed at Wyle Labs to confirm the impacts of this discrepancy. The tests indicated that this approach to the calculation was reasonable, and relatively small increases in ZOI would be warranted. Given the considerable conservatisms available in the suite of GSI-191 calculations, evaluations, and tests, this impact is judged not to have safety significance.

Additionally, the judgment that plants could continue to safely operate while GSI-191 was being resolved was documented by the US NRC in Generic Letter 2004-02. The Generic Letter justification lists the extremely low probability of a large or intermediate break LOCA, the likelihood that a small break LOCA would not initiate recirculation, very limited transport of debris, settling of debris, and leak-before-break credit as reasons that a substantial safety hazard does not exist for operating PWRs. The deficiency in the test rig used to create the ZOI data Westinghouse supplied to utilities would, at worst case, eliminate any credit for smaller debris loads, but would not increase debris loads over those assumed when the Generic Letter 2004-02 safety arguments were made. Therefore, this assessment of no substantial safety hazard remains valid for plants who have credited the Westinghouse ZOI test reports.

Based on the above evaluation results, it has been determined that this issue does not represent a substantial safety hazard pursuant to the requirements delineated in 10 CFR Part 21.