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02/12/2010

U.S. Nuclear Regulatory Commission Operations Center Event Report

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General Information or Other (PAR)

Event # 45697

Rep Org: WESTINGHOUSE ELECTRIC COMPANY	Notification Date / Time: 02/12/2010 13:40 (EST)
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City: PITTSBURGH	Agreement State: Yes
County: ALLEGHENY	License #:
State: PA	
NRC Notified by: J.A. GRESHAM	Notifications: RAY POWELL R1DO
HQ Ops Officer: PETE SNYDER	ALAN BLAMEY R2DO
Emergency Class: NON EMERGENCY	HIRONORI PETERSON R3DO
10 CFR Section:	WILLIAM JONES R4DO
21.21 UNSPECIFIED PARAGRAPH	PART 21 GROUP EMAIL

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INTERIM REPORT CONCERNING AN ISSUE IN SUMP BLOCKAGE GENERIC TESTS

Westinghouse is evaluating an identified inconsistency between test assumptions and the test rig configurations used for Generic Safety Issue (GSI) 191, "Experimental Studies of Loss-of-Coolant-Accident-Generated Debris Accumulation and Head Loss with Emphasis on the Effects of Calcium Silicate Insulation," NUREG/CR-6874, LA-UR-04-1227 testing. Specifically, this issue is related to jet impingement zone-of-influence (ZOI) tests and it applies to testing done for coatings and insulation.

Prior to discovery of the inconsistency, Westinghouse provided letters to the utilities to summarize the testing, analyze the test results, and propose acceptable ZOIs to support resolution of the ZOI aspect of GSI-191. The ZOI tests assumed the smallest diameter in the nozzle producing the jet to be at the nozzle. Westinghouse discovered however, that the inner diameter of an upstream component was smaller than the nozzle. This inconsistency may have resulted in undersized ZOIs being proposed in the letters.

Westinghouse has not yet concluded its determination as to whether there is a defect as defined by 10 CFR 21.

Westinghouse has been working with the Pressurized Water Reactors Owners Group and the NRC NRR Safety Issues Resolution Branch to resolve general test protocol issues and establish methods to evaluate the test results in terms of ZOIs.

IE19
NR



Fax Cover Sheet

To: NRC OPERATION CTR From: J. A. GRESHAM
Fax: 301-816-5151 Pages: 3 + COVER
Phone: 301-816-5100 Date: 2-12-10
Re: _____ cc: _____

Urgent For Review Please Comment Please Reply

Comments:

INTERIM REPORT PURSUANT TO 10 CFR 21.21(a)(2)

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February 12, 2010

Subject: Interim Report of the Evaluation of a Deviation Pursuant to 10CFR21.21(a)(2)

The purpose of this letter is to provide the Commission with the prescribed interim report as required per 10CFR21.21(a)(2) of a deviation identified by Westinghouse Electric Company LLC. The deviation being evaluated is an identified inconsistency between test assumptions and the test rig configuration used for GSI-191-related jet impingement zone-of-influence (ZOI) tests. This inconsistency applies to testing done for coatings and insulation.

- (i) Name and address of the individual or individuals informing the Commission.

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- (ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which contains a deviation which is under evaluation. As noted above, the deviation being evaluated is an identified inconsistency between test assumptions and the test rig configuration used for GSI-191 related jet impingement zone-of-influence (ZOI) tests. Westinghouse has not yet concluded its determination as to whether there is a defect as defined by 10CFR21.

Prior to discovery of the inconsistency in the ZOI tests, Westinghouse had provided the following WCAPs to utilities to summarize testing, analyze test results, and propose acceptable ZOIs in support of plants resolution of the ZOI aspect of GSI-191.

WCAP-16568-P, Rev. 1, Jet Impingement Testing to Determine the Zone of Influence (ZOI) for DBA-Qualified/Acceptable Coatings.

WCAP-16710-P, Rev. 1, Jet Impingement Testing to Determine the Zone of Influence (ZOI) of Min-K and NUKON[®] Insulation for Wolf Creek and Callaway Nuclear Operating Plants.

WCAP-16720-P, Rev. 0, Jet Impingement Testing to Determine Zones of Influence (ZOIs) for Diablo Canyon Power Plant.

WCAP-16727-NP, Rev. 0, Evaluation of Jet Impingement and High Temperature Soak Tests of Lead Blankets For Use Inside Containment of Westinghouse Pressurized Water Reactors.

WCAP-16783-P, Rev. 0, Jet Impingement Testing to Determine the Zone of Influence (ZOI) of Min-K and 3M[®] Fire Barrier Insulation for Watts Bar Nuclear Plant.

WCAP-16836-P, Rev. 0, Arkansas Nuclear One - Jet Impingement Testing of Insulating Materials.

WCAP-16851-P, Rev. 0, Florida Power and Light (FPL) Jet Impingement Testing of Cal-Sil Insulation.

- (iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

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- (iv) Nature of the deviation. The ZOI tests assumed the smallest diameter in the nozzle producing the jet to be at the nozzle. The inner diameter of an upstream component was found to be smaller than the nozzle. This inconsistency may have resulted in undersized ZOIs being proposed in the provided WCAPs. Undersized ZOIs could result in an incorrect debris volume being used in subsequent utility analyses.
- (v) In the case of a basic component which contains the deviation, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, one or more facilities or activities subject to the regulations in this part.

ZOI data in the WCAPs identified above has been supplied to twenty-one (21) utilities for a total of sixty-two (62) plants.

- (vi) The corrective action which has been, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

The issue was discovered while responding to NRC RAIs related to ZOI testing being addressed generically in a Pressurized Water Reactors Owners Group (PWROG) program. Westinghouse has been working with the PWROG and the NRC NRR Safety Issues Resolution Branch (NRR/DSS/SSIB) to resolve general test protocol issues and establish methods to evaluate the test results in terms of ZOIs. Results of these tests should make it possible to determine more precisely the impact of the identified inconsistency and establish a defensible test and evaluation protocol for ZOI testing. Completion of the 10CFR21 evaluation will be based on data reduction and documentation of conclusions from the testing. A completion date for the 10CFR21 evaluation cannot be determined at this time. Westinghouse will provide an update to the Staff on the status of the evaluation by March 31, 2010.

- (vii) Any advice related to the deviation that has been, or will be given to purchasers or licensees.

The affected licensees have been made aware of this issue through verbal and electronic communications. Communications resulting from the Westinghouse 10CFR21 evaluation to be provided to affected licensees will depend on conclusions derived from all tests performed for the issue. Should the sum of testing support the conclusions of the prior testing, provided in the identified WCAPs, the communication to affected plants will confirm applicability of the provided ZOI data. Otherwise, communication will provide revised ZOI data with suggested action(s) for affected licensees. Involvement of the PWROG program activities in the issue may contribute to content of any communication. NRR/SS/SSIB is also fully engaged in this issue. Any information coming from NRR/SS/SSIB participation will be included in communications to the affected licensees.

- (viii) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable to issue.

Very truly yours,



J. A. Gresham, Secretary
Westinghouse Safety Review Committee

cc: E. Lenning (NRC OWFN 11F-1)