July 8, 2008

Mr. Gordon Bischoff, Manager
Owners Group Program Management Office
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355

SUBJECT: REQUEST FOR THE REVIEW OF PRESSURIZED WATER REACTOR OWNERS GROUP (PWROG) TOPICAL REPORT (TR) BAW-2374, REVISION 2, "RISK-INFORMED ASSESSMENT OF ONCE-THROUGH STEAM GENERATOR TUBE THERMAL LOADS DUE TO BREAKS IN REACTOR COOLANT SYSTEM UPPER HOT LEG LARGE-BORE PIPING" (TAC NO. MD4023)

By letter dated January 4, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML070330123), the PWROG submitted TR BAW-2374, Revision 2, "Risk-Informed Assessment of Once-Through Steam Generator Tube Thermal Loads Due to Breaks in Reactor Coolant System Upper Hot Leg Large-Bore Piping," to the U.S. Nuclear Regulatory Commission (NRC) staff for review.

The NRC staff performed an acceptance review of TR BAW-2374, Revision 2. We have concluded that the report is acceptable for review. However, if the TR is approved for referencing in licensing submittals, licensees that reference it in a risk informed submittal must provide additional plant-specific information that demonstrates that special circumstances are present.

Discussion

The TR provides a risk-informed licensing basis change request. Our acceptance review, therefore, included consideration of the five criteria in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." The first criterion of RG 1.174 states that the proposed change meets current regulations unless an exemption is requested. When an exemption is needed, the criteria of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.12 also apply, and accordingly, it is necessary that "special circumstances be present" for the NRC to consider granting an exemption.

The approach to tube structural criteria proposed in the TR would relax reactor coolant pressure boundary design considerations essential for compliance with General Design Criterion (GDC) 31 and 10 CFR 100.11. Therefore, if an application was under siting review, or under licensing review in accordance with the GDC, an exemption would be necessary for the

proposed change. Even though Babcock & Wilcox (B&W) plants were not licensed to the GDC, they were sited in accordance with 10 CFR Part 100 requirements and licensed in accordance with principal design criteria that are similar to the GDC.

To ensure consistency in the application of the risk informed process, it is important that the same safety and policy issues be evaluated against the same change criteria regardless of the administrative process used to document and implement approved changes. Therefore, because the questions under consideration in this review would require an exemption under different administrative conditions, it is the NRC staff position that circumstances comparable to the "special circumstances" required in 10 CFR 50.12 should be present if the risk informed change process is to be applied. Accordingly, plant-specific requests that reference the TR (should it be approved) will also be evaluated in consideration of the special circumstances criteria specified in 10 CFR 50.12 even though exemptions may not be required because of the specifics of an individual plant licensing basis. The NRC staff also notes that, whether or not a licensee chooses to reference the TR, all non-conformance with the licensing basis or technical specifications that resulted from misapplication of leak before break considerations noted in the TR must be corrected.

In performing its acceptance review, the NRC staff has identified that the accident dose analyses described in the PWROG's TR appear to be inconsistent with NRC regulations and the licensing, design, and siting bases for the B&W plants. Specifically, the TR proposes that the large break loss-of-coolant accident, with subsequent steam generator tube rupture, need not be analyzed assuming a hypothetical full core melt. Since this is a design-basis accident, the NRC staff's position is that accident dose analyses performed to demonstrate compliance with the dose criteria in 10 CFR Part 100 or 10 CFR 50.67 must, conservatively, assume a source term based on a full core melt. Consistent with Commission guidance for risk informed actions, before a determination can be made on the proposed TR and associated changes to plants' licensing bases, the NRC staff must find that applicable regulations and regulatory requirements are met or an exemption to those requirements has been justified in accordance with NRC regulations such as 10 CFR 50.12. Therefore, in order for the NRC staff to perform a review of the TR, the PWROG would need to reanalyze and resubmit the dose consequence analyses for this design-basis accident applying a source term based on a full core melt. Alternatively, the TR could be amended to propose specific changes to the design basis dose analysis assumptions for B&W plants. Any proposed changes must be reviewed to determine whether exemptions are needed, and any identified exemption requests must be provided as separate plant-specific licensing actions.

The NRC staff notes that a total of 846 staff hours have been charged to TAC No. MD4023 completing the acceptance review. However, the complexity of the remaining technical and regulatory safety issues discussed above will likely require considerable additional NRC staff and PWROG resources to resolve.

On October 18, 2007, in a telephone call between Christine DiMuzio, PWROG Program Manager, and Holly Cruz, NRC Project Manager, the PWROG requested a halt of the charges for the review of the TR until a decision could be made regarding acceptability. The NRC staff estimates that the review will require an additional 1800 staff hours including project management time. Due to the additional time needed to complete the review, the NRC staff requests the PWROG inform the NRC of its decision regarding the continuation of the review. After the PWROG informs the NRC staff of this decision, a supplemental call will be held to discuss schedule and milestones, if appropriate.

If you have any questions regarding this matter, please contact Holly D. Cruz at 301-415-1053.

Sincerely,

/RA/

Michael J. Case, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 694

cc:
Mr. James A. Gresham, Manager
Regulatory Compliance and Plant Licensing
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355
greshaja@westinghouse.com

On October 18, 2007, in a telephone call between Christine DiMuzio, PWROG Program Manager, and Holly Cruz, NRC Project Manager, the PWROG requested a halt of the charges for the review of the TR until a decision could be made regarding acceptability. The NRC staff estimates that the review will require an additional 1800 staff hours including project management time. Due to the additional time needed to complete the review, the NRC staff requests the PWROG inform the NRC of its decision regarding the continuation of the review. After the PWROG informs the NRC staff of this decision, a supplemental call will be held to discuss schedule and milestones, if appropriate.

If you have any questions regarding this matter, please contact Holly D. Cruz at 301-415-1053.

Sincerely,

/RA/

Michael J. Case, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 694

cc:
Mr. James A. Gresham, Manager
Regulatory Compliance and Plant Licensing
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355
greshaja@westinghouse.com

ADAMS ACCESSION NO.: ML081070092 **NRR-043**

OFFICE	PSPB/PM	PSPB/LA	DCI/D	DSS/D	DRA/D	PSPB/BC	DPR/D
NAME	HCruz	DBaxley	MEvans	WRuland	MCunningham	SRosenberg	MCase
DATE	6/20/08		6/27/08	6/25/08	6/26/08	7/8/08	7/8/08

OFFICIAL RECORD COPY

DISTRIBUTION FOR: REQUEST FOR THE REVIEW OF PRESSURIZED WATER REACTOR OWNERS GROUP TOPICAL REPORT BAW-2374, REVISION 2, "RISK-INFORMED ASSESSMENT OF ONCE-THROUGH STEAM GENERATOR TUBE THERMAL LOADS DUE TO BREAKS IN REACTOR COOLANT SYSTEM UPPER HOT LEG LARGE-BORE PIPING" (TAC NO. MD4023)

Date: July 8, 2008

PUBLIC
WilliamRuland
JaredWermiel
TimothyCollins
MicheleEvans
JohnLubinski
AllenHiser
KennethKarwoski
EmmettMurphy
MarkCunningham
MelanieGalloway
MarkRubin
RobertTaylor
StephenDinsmore
MichaelCase
MarkMaxin
StaceyRosenberg (Hardcopy)
HollyCruz
SeanPeters
RidsDra
RidsDraAadb
RidsNrrDraApla
RidsDss
RidsNrrDssSrxb
RidsDci
RidsNrrDciCsgb
RidsNrrDpr
RidsNrrDprPspb
RidsOgcMailCenter
RidsNrrLADBaxley
RidsAcrsAcnwMailCenter
PSPB Reading File