

January 27, 2005

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

SUBJECT: SUMMARY OF TELECONFERENCE WITH THE WESTINGHOUSE OWNERS GROUP REGARDING POTENTIAL ONE CYCLE RELIEF OF REACTOR PRESSURE VESSEL SHELL WELD INSPECTIONS AT PRESSURIZED WATER REACTORS RELATED TO WCAP-16168-NP, "RISK INFORMED EXTENSION OF REACTOR VESSEL IN-SERVICE INSPECTION INTERVALS"

Dear Mr. Bischoff:

On January 13, 2005, a teleconference was held between the Westinghouse Owners Group (WOG) and the NRC staff at the request of the WOG. The topic discussed was the potential for one cycle reliefs of reactor pressure vessel (RPV) shell weld inspections at pressurized water reactors. This topic is related to prior discussions between the NRC and the industry regarding an industry proposal to extend the in-service inspection interval for the subject welds from 10 years to 20 years (see also letter from H. Berkow (NRC) to G. Bischoff (WOG), dated August 18, 2004 [ADAMS Accession Number ML042320009]).

At the request of the WOG, the staff provided the following information regarding a framework which could potentially support such a one cycle inspection relief request. The NRC staff did preface this discussion by noting that the details of this framework had not yet been discussed with the NRC's Probabilistic Safety Assessment Branch, although the framework is believed to be consistent with other risk-informed inservice inspection applications.

1. The principle basis for the request could be that the relief of the required American Society of Mechanical Engineers Code inspections for one cycle results in a negligible increase in risk. Hence, in the language of 10 CFR 50.55a(3)(i), the relief from the examinations still results in maintaining "an acceptable level of quality and safety." Absent having the WCAP-16168 quantitative technical basis, however, this risk determination would need to be made on a qualitative basis.
2. The licensee could first explain what examinations have already been performed (preservice and inservice), the quality of those examinations, the amount of coverage obtained, and the results. The licensee could presumably show that no reportable indications have been found during their prior inservice inspections or that any reportable indications were subject to subsequent reexamination and showed no signs of growth.
3. The licensee could then reflect on fleet-wide inspection experience, perhaps in particular, the inspection results from plants whose vessels were fabricated by the same manufacturer as its own. The licensee could presumably show that no significant indications had been found across the fleet.

4. The licensee could then provide a discussion of how no known active degradation mechanisms are operative in the subject welds. The licensee could presumably note that the fatigue usage factor for its vessel due to thermal and mechanical cycling of the vessel is much less than one. The licensee could also presumably note that, for any small flaws which may have been present but missed during the last inservice inspection, the amount of subcritical crack growth due to heatup/cool-down cycles would be negligible up to the time of the deferred examination.
5. The licensee could then provide a discussion regarding the material condition of their RPV with respect to the embrittlement level of its various materials of construction (plates, forgings, welds). The licensee could presumably conclude that few, if any, of its RPV's materials are substantially embrittled such that they could be challenged even if a flaw was present.
6. The licensee could then provide a discussion of how, based on its plant operational experience, fleet-wide operational experience and plant characteristics, the likelihood of an event (in particular, a significant pressurized thermal shock event) over the next operating cycle which could challenge the integrity of the RPV, if a flaw was present, is very low.

The WOG participants raised a question regarding the NRC staff's ability to review relief requests for facilities having outages in Spring 2005 in which RPV shell weld inspections would have to be preformed. The NRC staff noted that the time available for the review was very short and success could not be guaranteed since (1) these would be first-of-a-kind reviews, and (2) the NRC staff's ability to make a timely determination about the acceptability of any particular submittal would be highly dependent on the quality of the licensee's submittal (e.g., the inclusion of adequate detail to fully address the framework points noted above).

If you have any questions, please contact Mr. Girija Shukla at 301-415-8439.

Sincerely,

**/RA/**

Robert A. Gramm, Chief, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Project No. 694

cc:  
Mr. James A. Gresham, Manager  
Regulatory Compliance and Plant Licensing  
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