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April 18, 2000
OG-1787

DOCKET NUMBER
PETITION RULE PRM 50-69
(65FR6044)

Project No. 693

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Rulemakings and Adjudications Staff

Subject: Comments - Petition for Rulemaking Docket No. PRM-50-69

Dear Sir/Madam:

This letter is submitted on behalf of the members of the Reactor Vessel Working Group (RVWG) of the B&W Owners Group (B&WOG) in response to the request for comments in the Federal Register dated February 8, 2000, on the Petition for Rulemaking filed by Westinghouse Electric Company LLC. The petition has been assigned Docket No. PRM-50-69 by the Commission, and requests that the NRC regulations governing pressure and temperature limits for the reactor pressure vessel be amended to eliminate requirements for the metal temperature of the closure head flange and vessel flange regions.

The RVWG supports the actions requested in the petition based on the following:

- The Westinghouse petition documents the technical basis for removal of the flange limits in Table 1 of Appendix G to 10 CFR Part 50 using methods that have been endorsed by Section XI of the Boiler and Pressure Vessel Code. In particular, WCAP-15315, "Reactor Vessel Closure Head/Flange Requirements Evaluation for Operating PWR and BWR Plants," was submitted in support of the petition and demonstrates a significant margin of safety exists in the reactor pressure vessel closure head and flange region. Furthermore, the only known degradation mechanism in this region is fatigue and the fatigue usage factor in this area has been determined to be acceptable for all licensees.

April 18, 2000

OG-1787

Page 2

- Recent advances in fracture mechanics methods and knowledge have led to the publication of Code Case N-640 by ASME. The Code Case allows use of K_{IC} reference fracture toughness curve rather than K_{IR} and results in higher allowable pressures corresponding to any given primary system temperature. However, the current pressure vessel flange material temperature limit in Table 1 of Appendix G prevents some licensees from realizing this improvement in the pressure-temperature limits due to the flange becoming controlling in the limits. The flange temperature limit causes a significant operational constraint for some licensees of pressurized water reactors.

The petition provides a technical basis demonstrating that the flange temperature requirements are overly conservative and can be eliminated. If eliminated, a wider pressure-temperature operating window is possible resulting in less frequent actuation of reactor coolant system overpressure protection systems and reduced probability of challenges to reactor coolant pump seals. This provides greater operating flexibility during reactor heatup and cooldown, with an improvement in reactor safety.

- The B&WOG Reactor Vessel Working Group reviewed the technical basis provided in the petition and agrees that it generically covers the plants in the Working Group. Given the generic nature of the information, a rule change is preferable to individual licensees pursuing exemptions to the requirements of 10 CFR 50 Appendix G. The proposed rule change should result in licensees avoiding the preparation of plant-specific exemption requests. Likewise, NRC staff reviews would be minimal or eliminated.

In summary, the B&W Owners Group RVWG agrees with the technical bases and conclusions drawn in the petition and that elimination of the flange temperature requirement will improve operational flexibility and safety while having no negative impact on flange integrity. We support the petition to revise Table 1 of 10 CFR 50, Appendix G.

Sincerely,

*D. Howell for
James R. Pfefferle*

James R. Pfefferle, P.E.
Chairman, B&WOG RVWG

DLH/mcl

c: Reactor Vessel Working Group

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