



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 27, 1999

Mr. David J. Firth
Program Director
Generic License Renewal Program
The B&W Owners Group
1700 Rockville Pike, Suite 525
Rockville, MD 20852

SUBJECT: GENERIC LICENSE RENEWAL PROGRAM TOPICAL REPORT ENTITLED,
"DEMONSTRATION OF THE MANAGEMENT OF AGING EFFECTS FOR THE
REACTOR VESSEL," BAW-2251, JUNE 1996

Dear Mr. Firth:

On April 16, 1999, the staff of the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation (NRR), issued a final safety evaluation report (FSER) concerning the topical report entitled, "Demonstration of the Management of Aging Effects for the Reactor Vessel," BAW-2251, which the Babcock & Wilcox Owners Group (B&WOG) submitted in June 1996 as part of the Generic License Renewal Program (GLRP).

The staff believes that one conclusion in the FSER is based on incorrect information. The conclusion in question is related to the pressure boundary issue of the first O-ring and the monitoring pipes for the reactor vessel flange.

The FSER indicated that two O-rings in the closure head and upper vessel shell flanges provide a leakage boundary. The FSER stated that the pressure boundary structural component is the first O-ring. Two pipe connections are used as part of a leakage monitoring system to detect leakage past the inner-most O-ring. These flow paths penetrate the sealing surface of the vessel flange between the inner and outer O-rings. The one-inch Schedule 160 stainless steel pipes facilitate detection of leakage of reactor coolant past the inner O-ring and provide a path for pressure testing the O-ring seal integrity.

The staff has reconsidered the conclusion that the pressure boundary is provided by the first O-ring. This conclusion appears inconsistent with the staff's position contained in license renewal issue number 98-0012, "Consumables" that was issued to the Nuclear Energy Institute on April 20, 1999. In this position the staff stated that packing, gaskets, seals, and O-rings are typically not required by the current licensing basis to fulfill the functions of 10 CFR 54.4(a)(1)(i). The position also stated that according to ASME, Section III, NB2121, NC2121, and ND2121, packing, gaskets, seals and O-rings are not relied upon for a pressure retaining function in components for which these Code design practices apply.

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Inasmuch as these code design practices do not apply to the O-ring in the closure head, and the sealing surface of the vessel flange is the pressure boundary, the staff believes the O-rings are not within the scope of 10 CFR Part 54. Because the leakage monitoring pipes penetrate the sealing surface of the vessel flange, they should be treated as part of the reactor coolant system pressure boundary, and, therefore, within the scope of Part 54.

To resolve this issue the staff requests that the B&WOG correct the inconsistency with the code regarding the pressure retaining function of the first O-ring and provide an aging management review for the monitoring pipes as they are part of the pressure boundary.

If you have any questions regarding this issue, please contact Raj Anand, at 301-415-1146 or Joseph Sebrosky, at 301-415-1132.

Sincerely,

Original Signed By

Christopher I. Grimes, Chief
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

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In as much as these code design practices do not apply to the O-ring in the closure head, and the sealing surface of the vessel flange is the pressure boundary, the staff believes the O-ring are not within the scope of 10 CFR Part 54. Because the leakage monitoring pipes penetrate the sealing surface of the vessel flange, they should be treated as part of the reactor coolant system pressure boundary, and, therefore, within the scope of Part 54. X

To resolve this issue the staff requests that the B&WOG correct the inconsistency with the code regarding the pressure retaining function of the first O-ring and provide an aging management review for the monitoring pipes as they are part of the pressure boundary.

If you have any questions regarding this issue, please contact Raj Anand, at 301-415-1146 or Joseph Sebrosky, at 301-415-1132.

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Christopher I. Grimes, Chief
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NAME	GHolahan	RWeisman	CGrimes	DMatthews	
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