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 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269  
 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270  
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287

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SUBJECT: Informs of intention to store reactor cavity seal ring in  
 general area of cavity during normal operation, based on  
 leak-before-break rept (BAW-1847) & util investigation of  
 results. Seal ring will not become destructive missile.

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February 19, 1986

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. John F. Stolz, Project Director  
PWR Project Directorate No. 6

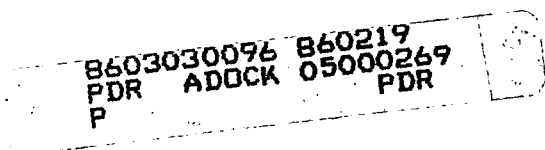
Re: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287

Dear Sir:

Your letters dated July 18, 1979 and October 11, 1979 addressed the NRC concern regarding the potential for the reactor cavity annulus seal ring to become a destructive missile in the event of a postulated loss-of-coolant accident in the reactor cavity. The staff requested Duke Power Company (Duke) to (a) demonstrate by appropriate analysis that the seal ring can not become a destructive missile during continued long-term operation and that it poses no threat to the health and safety of the public; or (b) furnish a statement that the seal ring will be removed by no later than the next refueling outage.

By letter dated November 15, 1979, Duke responded that it can not be shown presently, by analysis, that the seal ring will not become a missile that will damage safety-related components, systems or structures. Duke committed that the reactor cavity annulus seal ring will be either firmly attached or removed to an area where it will pose no missile hazard.

As a result, the reactor cavity seal rings at the Oconee Nuclear Station have been removed away from the reactor cavity areas during the normal operation.



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The NRC staff has recently completed its review of the B&W Owners Group's reports which apply "leak-before-break" technology as an alternative to designing against dynamic loads associated with postulated ruptures of primary coolant loop piping. In a letter dated December 30, 1985 to B&W Owners Group the staff evaluation concluded that in view of the analytical results in B&W Owners Group's leak-before-break submittals the probability or likelihood of large pipe breaks occurring in the primary coolant system loops of the B&WOG facilities is sufficiently low such that dynamic effects associated with postulated pipe breaks in these facilities need not be a design basis.

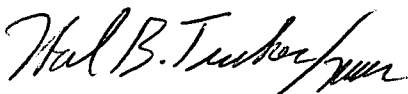
The leak-before-break report, BAW-1847, however, allows detectable leaks for calculating assumed flaw sizes used in the supporting fracture mechanics calculations. The leak rate assumed is 10 gallons per minute. This leak rate is conservatively larger than the smallest detectable leak for a B&W plant leak detection system. Therefore, a 10 gpm leak becomes the largest plausible break to consider for cavity seal ring missile concern.

Duke has investigated this leak to determine its impact on the reactor cavity biological shield plugs and seal ring. The results show there is no concern for missiles due to a 10 gpm leak in the reactor cavity.

Duke considers the staff's acceptance of the leak-before-break analyses to provide sufficient technical justification that the reactor cavity seal ring can not become a destructive missile as a result of a break in the reactor coolant piping in the reactor cavity.

As such, beginning with the current Oconee Unit 1 refueling outage, Duke intends to store the reactor cavity seal ring in the general area of the reactor cavity during the normal operation for all three Oconee units. Duke has determined that significant savings in resources and a reduction in radiation exposure will be realized by keeping the reactor cavity seal ring in the reactor cavity area during the normal operation without any increase in the margin of safety.

Very truly yours,



Hal B. Tucker

MAH:slb

Attachment

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cc: Dr. J. Nelson Grace, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Ms. Helen Nicolaras  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Mr. J. C. Bryant  
NRC Resident Inspector  
Oconee Nuclear Station