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SUBJECT: Forwards addl info re util response to NUREG-0737, Item II.D.1, "Performance Testing of Relief & Safety Valves."

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February 10, 1988

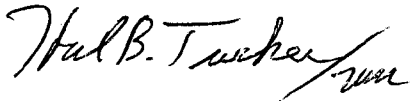
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
NUREG-0737, Item II.D.1.
"Performance Testing of Relief and Safety Valves"
Request for additional Information

Dear Sir:

By letter dated April 22, 1987, the NRC requested additional information regarding NUREG-0737 Item II.D.1 for Oconee Nuclear Station. Responses were provided by Duke in letters dated August 6, 1987 and January 15, 1988. By the January 15, 1988 letter, Duke had advised that a response for Request 1 would be provided by February 10, 1988. Accordingly, please find attached Duke's response to Request 1. With this response, all questions provided by the April 22, 1987 NRC letter are now addressed.

Very truly yours,



Hal B. Tucker

PFG/1362/sbn

Attachment

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Duke Power Company
Oconee Nuclear Station

Attachment

NUREG-0737 Item II.D.1
"Performance Testing of Relief and Safety Valves"

Response to Request for Additional Information

Request 1

The predicted normal and upset bending moments on the Oconee 1 and 2 PORVs exceed the maximum bending moment applied in the EPRI tests to the Dresser PORV. In your response to Question 5 of our request for information, you noted the valves had provided twelve years of satisfactory in-service operation with the predicted normal operating load. Therefore, the normal and upset operating bending moments were considered acceptable. The Staff position is that this is not an acceptable response. The purpose of NUREG-0737 requirements is to show valve operability under expected in-plant conditions. Have the PORVs in Units 1 or 2 ever lifted and operated properly with the higher predicted loads? Otherwise, twelve years of satisfactory service with the normal operating loads only implies the valves have not broken because of the imposed loads. Provide data to show the Oconee 1 and 2 PORVs will operate properly with loads applied that are at least equal to the predicted loads.

Response 1

The original PORV moments supplied by the October 1, 1985 submittal were provided for data points that were not the PORV inlet and outlet. The corrected loadings are as follows.

VALVE LOADING SUMMARY VS. EPRI TEST VALVES

Largest Loading Combination Compared

Unit 1

<u>VALVE</u>	<u>LOADING COMBINATION</u>	<u>PREDICTED VALUE</u>	<u>LOADING COMBINATION</u>	<u>PREDICTED VALUE</u>	<u>EPRI STEADY STATE TEST LOAD</u>
PORV (Inlet)	Normal	2080 ft-lbs	UPS2	2445 ft-lbs	2125 ft-lbs
PORV (Outlet)	Normal	1628 ft-lbs	UPS2	2121 ft-lbs	2125 ft-lbs

Units 2 & 3

<u>VALVE</u>	<u>LOADING COMBINATION</u>	<u>PREDICTED VALUE</u>	<u>LOADING COMBINATION</u>	<u>PREDICTED VALUE</u>	<u>EPRI STEADY STATE TEST LOAD</u>
PORV (Inlet)	Normal	155 ft-lbs	UPS2	750 ft-lbs	2125 ft-lbs
PORV (Outlet)	Normal	178 ft-lbs	UPS2	829 ft-lbs	2125 ft-lbs

The only bending moment that exceeds the EPRI test valve is the Unit 1 PORV inlet for the UPS2 load combination. The UPS2 combination includes normal loads plus the effects of valve discharge. The 2445 ft-lbs moment is a peak value that occurs within a fraction of second after valve opening. The EPRI test valve (2125 ft-lbs) is a steady state load that was induced prior to valve lift. Review of the EPRI data for the Dresser valve indicates that the equivalent UPS2 bending moments immediately after valve lift were in the range of 2900 ft-lbs.

The predicted valve moments for the Unit 1 valve are therefore bounded by the EPRI test values.