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 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287

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 DENTON, H. R. Office of Nuclear Reactor Regulation, Director
 STOLZ, J. F. Operating Reactors Branch 4

SUBJECT: Forwards final evaluation of pressurizer safety & relief valve piping sys, per NUREG-0737, Item II.D.1, Mods to reduce piping sys stresses below FSAR spec will be performed during next refueling outage, Plant safety not affected.

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January 21, 1983

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

Attention: Mr. J. F. Stolz, Chief
Operating Reactors Branch No. 4

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

Dear Sir:

In accordance with NUREG-0737, Item II.D.1 as revised on September 29, 1981 please find attached the final evaluation of the Oconee Pressurizer Safety and Relief Valve Piping System. The preliminary evaluation was provided on July 1, 1982, and my letter of December 30, 1982 addressed the delay in preparing this report.

As indicated in the attached evaluation, certain support modifications are planned to reduce piping system stresses below those described in the FSAR, despite the fact that the system is qualified with the 1980 edition of the ASME Code. Preliminary plans are to perform the modifications during the next refueling outage of each Oconee unit, dependent upon design completion and material availability. The slight overstress condition when analyzed as prescribed by the FSAR has been evaluated and found not to affect system operability; thus the safety of the units is not affected.

Very truly yours,

HAL B. TUCKER
[Signature]

Hal B. Tucker

JFN/php
Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
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OCONEE NUCLEAR STATION
PRESSURIZER SAFETY AND RELIEF
VALVE PIPING SYSTEM
FINAL EVALUATION REPORT
NUREG-0737, ITEM II.D.1

This report contains the final evaluation of the Pressurizer Safety and Relief Valve (S/RV) Piping System of Oconee Nuclear Station Units 1, 2, and 3. This report updates the preliminary report (dated July 1, 1982) and substantiates the integrity of the Pressurizer S/RV Piping. This study is based on applicable test results obtained from the EPRI Test Program (References 1 & 2).

The Pressurizer S/RV Piping System was originally designed to the 1967 USAS B31.1 Code for Pressure Piping per the requirements defined in the Oconee Nuclear Station Final Safety Analysis Report. The 1980 edition of the ASME Code was used to qualify the piping system for operability. This operability analysis includes the EPRI S/RV test data and considers the previously unanticipated physical phenomena which may occur in the discharge segment of the piping system.

The results of this operability analysis show that the Pressurizer S/RV Piping satisfies the ASME Code requirements for all transient and steady state loads. A structural review of the support/restraints per the 8th edition of the AISC Steel Manual indicates that the support/restraint system is also adequate; therefore, the total system is operable.

The Piping System was also evaluated in accordance with the 1967 USAS B31.1 Code with loading conditions that include the new transients. Piping stresses slightly exceed the B31.1 allowable stress values and modifications to the Pressurizer S/RV Piping support/restraint configurations are planned in order that the piping system stresses are reduced to satisfy the requirements of the Oconee Nuclear Station Final Safety Analysis Report (FSAR) for the more severe transient loading conditions based on the EPRI test data.

REFERENCES

1. "Dynamic Loading on Pressurizer Safety and Relief Valve Discharge Line Due to Valve Actuation"; EPRI Relief and Safety Valve Test Program, September 22, 1982.
2. "Determination of As-Tested Bending Moments Acting On Test Valve Discharge Flanges"; EPRI Relief and Safety Valve Test Program, July 9, 1982.