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DOCKET #
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AUTH. NAME: PARKER, W.D. AUTHORITY AFFILIATION: Duke Power Co.
 RECIP. NAME: DENTON, H.R. RECIPIENT AFFILIATION: Office of Nuclear Reactor Regulation, Director
 STOLZ, N.F. Operating Reactors Branch 4

SUBJECT: Requests authorization to use ASME Code Case N-19-2(1481-2).
 Allowable stress values obtained from code provide
 acceptable level of quality & safety in design of diesel
 generation exhaust piping & supports.

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DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

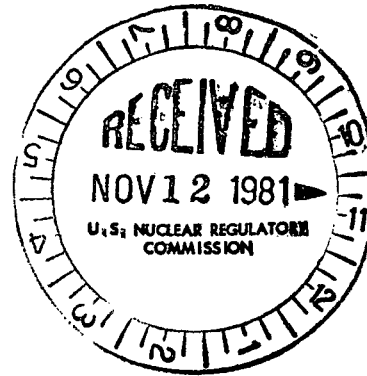
November 3, 1981

TELEPHONE: AREA 704
373-4083

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:

Pursuant to 10 CFR 50 §50.55a(a)(2)(ii), Duke Power Company is requesting authorization to use Code Case N-19-2(1481-2) of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. Code Case N-19-2(1481-2), "Elevated Temperature Design of Section III, Division 1, Class 2 and 3 Components" (copy attached), was approved by Council on July 11, 1977, with an expiration date of July 11, 1980. The requirements of this Code Case have been used for the piping and support/restraint design and analysis for the Standby Shutdown Facility (SSF) diesel generator exhaust piping at Oconee Nuclear Station. The diesel generator for the Oconee Nuclear Station SSF was ordered on December 15, 1978.

The SSF diesel generator exhaust piping is ASME Section III, Class 3 with the support/restraint materials subject to ASME Subsection ND (for welded attachments), and Subsection NF requirements. The support/restraint designs for the exhaust piping are subject to ASME Section III, Division 1 requirements. The code design date for both the piping and the support/restraints is the 1974 Edition including all addenda through the Summer 1975 Addenda.

The design temperature for the diesel exhaust is 800 degrees F. Allowable stresses are tabulated to 700 degrees F in ASME Subsection ND, Appendix I, Table I-7.0. Code Case N-19-2(1481-2), "Elevated Temperature Design of Section III, Division 1, Class 2 and 3 components," states that the allowable stress values in Table I-7.0 shall be extended to higher temperatures by using the values contained within the various stress tables of Section VIII, Division 1. Thus, the utilization of this Code Case provides allowable stress values for the 800 degree F design temperature, since the Section VIII tables include temperatures up to 1200 degrees F.

In the absence of any other ASME design criteria, we have been applying the guidelines of Code Case N-19-2(1481-2) in our analysis and design of the SSF diesel generator exhaust piping and the supports/restraints for this piping.

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PDR

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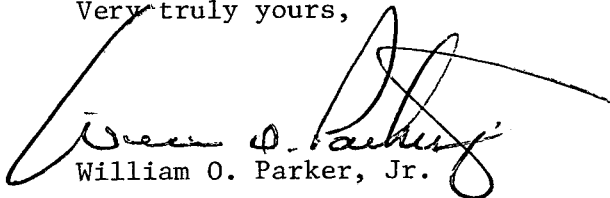
Mr. Harold R. Denton, Director
November 3, 1981
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In our support/restraint designs, we have ensured that we are attaching (welding) only SA-387, Grade 11 plate, or SA-335, Gr. P11 pipe, or both. Based on our review, these materials are compatible with the piping materials to be used. The SSF diesel exhaust piping materials are ASME SA-335, Gr. 11, for the 20 inch line, and ASME SA-155 (A-387, Gr. C, Class 1), for the 22 inch line.

It is our opinion that the allowable stress values obtained from this Code Case provide an acceptable level of quality and safety in the design of the SSF diesel generator exhaust piping and the supports/restraints for this piping as required by 10 CFR 50 §50.55 a (a)(2)(ii).

Pursuant to 10 CFR 170 §170.22, this request is considered to be a Class III license amendment. Therefore, please find a check in the amount of \$4,000.

Very truly yours,



William O. Parker, Jr.

JFK/php
Attachments

cc: Mr. Phil Wagner
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Meeting of May 6, 1977

Approved by Council, July 11, 1977

*This Case shall expire on July 11, 1980
unless previously annuled or reaffirmed.*

Case N-19-2 (1481-2)

**Elevated Temperature Design of Section III, Division 1,
Class 2 and 3 Components**

Inquiry: Under what rules shall Section III, Division 1, Class 2 or Class 3 components be constructed when metal temperatures exceed those for which allowable stress values are given by Section III?

Reply: Rules governing the construction of Section III, Division 1, Class 2 or Class 3 components which are to experience temperatures above those now provided for in Section III, Division 1, are in preparation by the Committee. In the interim, it is the opinion of the Committee that Class 2 and 3 components shall be constructed to the rules presently contained in Section III for such components except as modified by the following:

(1) Except for Class 2 vessels conforming to NC-3200, the allowable stress values in Tables I-7.0 shall be extended to higher temperatures by using the values contained within the various stress tables of Section VIII, Division 1. However, materials restricted in Tables I-7.0 to temperatures less than 700 F for ferritic or 800 F for austenitic and high nickel alloy materials, shall not be used at temperatures higher than those permitted by Tables I-7.0.

(2) For Class 2 vessels conforming to the rules of NC-3200, the design stress intensity values given in Tables

I-1.0 may be extended to higher temperatures by using the values contained within the various stress tables of Section VIII, Division 1, subject to the following provisions:

(a) Materials restricted in Tables I-1.0 to temperatures less than 700 F for ferritic or 800 F for austenitic and high nickel alloy materials shall not be used at temperatures higher than those permitted by Tables I-1.0.

(b) The vessel is exempted from a fatigue analysis by the provisions of NC-3219.1, and such exemption is made part of the Design Specification.

(3) Physical property data at temperatures higher than those included in Tables I-5 and I-6 may be obtained from authoritative sources such as publications of the National Bureau of Standards.

(4) This Case is not applicable to Storage Tanks constructed in accordance with NC-3800, NC-3900, ND-3800 and ND-3900.

(5) This Case may be applied to Class 2 Hydrogen Recombiner Vessels made of Type 304 stainless steel material with carbon content less than 0.04% provided:

(a) the material specification for the Type 304 stainless steel is listed in Table UHA-23 of Section VIII, Division 1,

(b) the total service time at temperatures above 800 F does not exceed 10,000 hr, and

(c) the design and service temperatures do not exceed 1350 F.

(6) This Case number shall be indicated on the nameplate and Data Report Form.