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

SUBJECT: Forwards response to 850722 request for addl info re
 inservice insp relief requests for second 10-yr interval.

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October 8, 1985

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

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

Dear Sir:

By letter dated July 22, 1985, the NRC requested additional information in regard to several Inservice Inspection (ISI) relief requests for Oconee Nuclear Station during the second ten-year interval. My letter dated September 20, 1985, advised you of the delay in submitting a response. Attached please find Duke's response.

Very truly yours,



Hal B. Tucker

PFG:slb

Attachment

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

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Mr. Harold R. Denton, Director

October 8, 1985

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Request 1

By letter dated September 25, 1984, ⁽³⁷⁾ you submitted a proposed inservice inspection (ISI) program for the second 10-year inspection interval of Oconee Units 1, 2, and 3. We will be using this program, along with the other documents referenced chronologically at the end of this RAI, to review your Requests for Relief and Code-allowed exemptions from the requirements of the applicable editions and addenda of Section XI of the ASME Boiler and Pressure Vessel Code. If there are any documents not referenced that you believe may aid our review, please provide us with copies. Specifically, we are unable to locate copies of the following documents referenced in your submittals:

<u>Info. Source</u>	<u>Dates</u>	<u>Subject</u>
Reference 8	4/11, 5/8, 7/14, 7/21/78	Requests
Reference 10	5/15/79	Comprehensive ISI Program
Reference 6	(Attachment to Ref. 6)(?)	Detailed description of Oconee 2/3 ISI program
Reference 6	7/8/77	ISI Tech. Spec. Change, Oconee 2/3

Response 1

Attached are the following documents:

April 11, 1978; July 14, 1978; July 21, 1978; September 21, 1978

The other identified documents have yet to be located. However, if found, they will be forwarded.

Request 2

Your letter of January 7, 1981, ⁽¹⁵⁾ is used as a basis for your second interval Relief Requests of November 16, 1984, ⁽³⁹⁾ and December 11, 1984. ⁽⁴⁰⁾ In regards to that letter, please indicate the following:

- (a) Is there any formal documentation from the NRC staff to form the basis for the statement that the letters of 7/21/78, 11/28/78, ⁽⁸⁾ 1/26/79, ⁽⁹⁾ and 11/27/79, ⁽¹²⁾ were accepted (i.e., that the requested relief was granted)?
- (b) To what Code items in the first interval did you intend your proposed alternate NDE methods to apply? Are these methods your alternates for these items or are they required by the Code?
- (c) During the remainder of the first interval, how many times did you invoke the terms of this letter, i.e., make the determination that hydrostatic testing was impractical?

(d) Was there a documented procedure for making this determination? If so, what are its major features (i.e., responsibility and approvals, criteria, etc.)?

(e) Under the terms of subparagraph 10 CFR 50.55a(g)(5)(iv) where an examination or test is determined to be impractical and not included in the revised program, the basis for such determinations shall be demonstrated to the satisfaction of the NRC not later than 12 months after the expiration of the interval. What other applicable information can you provide to aid in the determination that the Code requirements were impractical?

Response 2

On September 23, 1985 a conference call between Duke Power and NRC was held. This Request and Request 9 were discussed and it was agreed to arrange a meeting in order to discuss these two requests. The arrangements of the meeting will be coordinated through the NRC Oconee Project Manager.

To this end, a formal response is not provided for this question and for question 9, as well.

Request 3

Are there instances (other than hydrostatic testing after maintenance or modification) where you have previously not requested relief, in the submittals we referenced, from the requirements of the Code edition applicable during the first interval? Under the terms of subparagraph 10 CFR 50.55a(g)(5)(iv), please submit any such requests.

Response 3

No, all instances, (other than hydrostatic testing after maintenance or modifications), where a Relief Request was required have been previously submitted.

Request 4

Have you reviewed all the previously approved first interval Relief Requests for applicability to the second interval? If not, please submit any additional second interval Relief Requests resulting from such a review.

Response 4

Yes, all previously approved relief requests for the first interval have been reviewed and if were found to be applicable for the second interval, were submitted.

Request 5

References 36, 37, and 40 state that the Code edition considered applicable to the second interval is the 1980 Edition with addenda through Winter 1980. It is stated in 10 CFR 50.55a(g)(4)(ii) that the applicable Code for each successive

interval is the one in effect on the date 12 months prior to the start of that interval. The common start date of Oconee's second interval is April 1, 1984. The Winter 1981 Addenda to the 1980 Edition became effective March 9, 1983 (see 48 FR 5532). Please confirm that your program will be performed in accordance with the 1980 Edition with addenda through Winter 1981 and update your submittals as necessary.

Response 5

On September 23, 1985 a conference call between Duke Power and NRC was held to discuss this request. The participants tentatively agreed that the Code Edition applicable to the second ten-year interval should be the 1980 Edition with addenda through winter 1980, as long as there are no technical differences between this edition and the 1980 Edition with addenda through winter 1981. After determining that there are no technical differences, Duke will take the appropriate actions to establish a common start date of March 1, 1984 for Oconee's second inservice inspection interval.

Request 6

Relief Request ONS-001, Core Flood Nozzle-to-Safe End and Safe End-to-Pipe Welds.

- (a) DWG. OM-201-91, referenced in Paragraph 1(a), is stamped "Oconee 1." Please provide comparable drawings for Units 2 and 3.
- (b) Also in Paragraph 1(a), Part 3 of ISO 2 is specified (as well as on p. 49 of the Master Reference Listing for Unit 1); however, Part 2 is attached to the Relief Request. Please supply Part 3.
- (c) Because the format of the Master Reference Listing is different for Units 2 and 3 (42, 43) than for Unit 1, the welds to which this relief request applies for Units 2 and 3 cannot be specifically identified. Please incorporate the applicable weld numbers for all three units into this Relief Request.
- (d) In Paragraph 2, you identify only Code Item B5.10, but the Unit 1 plan correctly includes Code Item B9.11. Please correct this discrepancy.
- (e) The implementation schedule (Paragraph 5 of this Relief Request) indicates that all these welds will be inspected at or near the end of the second 10-year interval. However, on p. 37 of the Unit 1 inspection schedule, inspection B09.011.090A (on pipe weld 43L of Unit 1) is scheduled for the third outage of this interval (Outage 9). Please clarify this discrepancy. If you intend to defer all these examinations to the end of the interval, contrary to the code requirements for Items B5.10 and B9.11, please expand your Relief Request to include this postponement and provide justification.

Response 6

- (a) The design of the core flood nozzles and safe ends are essentially identical for all three Oconee units. The specific drawings for Oconee 2

(B&W Drawing No. 151994) and Oconee 3 (B&W Drawing No. 149906 are included in the revised Request for Relief (Enclosure 1).

- (b) ISO Part 3 is included as an attachment to the revised Request for Relief.
- (c) A revised Request for Relief, including the additional information requested, is included in Enclosure 1.
- (d) This item has been corrected by the revised Request for Relief.
- (e) Items B09.011.090A was inadvertently included in the outage 9 schedule on the original submitted. This was discovered and corrected on Revision 3 to the ISI plan on April 17, 1985.

The examination schedule specified in the Request for Relief is in full compliance with the requirements of Paragraph IWB-24-20(a), Items B5.10 and B9.11.

DUKE POWER COMPANY

Oconee Nuclear Station Units 1, 2, and 3

Request For Relief From ASME Code Section XI
(1980 Edition Through Winter 1980 Addenda)
Inservice Inspection Requirement

Enclosure 1

A.I. Component for which exemption is requested:

a. Name and Identification Number:

Core Flood Nozzle-to-Safe End and Safe-to-Pipe Welds Drawings
OM-201-92 (Oconee 1)
151994 (Oconee 2)
149906 (Oconee 3)

Isometrics: System 53A, ISO 1, Part 2 (Unit 1) Sheet 8, Part 3 (Unit 2)
ISO 2, Part 3 (Unit 1) ISO 15, Part 1 (Unit 3)
Sheet 8, Part 2 (Unit 2) ISO 16 (Unit 3)

b. Function:

Provides Reactor Vessel core flooding capability.

c. ASME Section III Code Class:

Class 1

d. Valve Category:

N/A

II. Reference Code Requirement that has been determined to be impractical:

Table IWB-2500-1; Category B-F; Items B5.10 and B9.11
Surface examination

III. Basis for Requesting Relief:

Relief requested from surface examination only.

Approximately 40 man-hours would be required to prepare each of the two core flood nozzle safe ends for inspection. The preparation would involve removal of the refueling canal seal plate, shielding bricks, shielding supports in the nozzle area, and insulation. The radiation levels in this area are expected to be 0.5-1 R/hr. An alternative approach is to enter from the bottom of the vessel and build a scaffold approximately 30 feet high to reach the nozzles. This approach would require approximately 80 man-hours, 40 in the 0.5-1 R/hr. area and the other 40 in the 1-2 R/hr. radiation present at the bottom of the reactor

III. Basis for Requesting Relief (cont.)

vessel, for a total exposure of 60-120 man-Rem. Shielding is considered impractical in this area. Any remote inspection would require practically the same preparation work.

IV. Alternate Examination:

Welds will be inspected by UT from the inside surface. This will provide adequate assurance of weld integrity at the OD surface.

V. Implementation Schedule:

All core flood nozzle-to-safe end and safe end-to-pipe welds will be inspected at or near the end of the second ten-year interval.

	<u>Item Number</u>	<u>Weld Number</u>
Ocone 1:		
Nozzle to safe end:	B05.010.001A	1RPV-WR53
	B05.010.001B	1RPV-WR53
	B05.010.002A	1RPV-WR53A
	B05.010.002B	1RPV-WR53A
Safe end to pipe:	B09.011.090	1-53A-02-43L
	B09.011.100	1-53A-1.2-1L
Ocone 2:		
Nozzle to safe end:	B05.010.001A	2RPV-WR53
	B05.010.001B	2RPV-WR53
	B05.010.002A	2RPV-WR53A
	B05.010.002B	2RPV-WR53A
	B09.011.151	2-53A-8.2-63
	B09.011.160	2-53A-8.3-64
Ocone 3:		
Nozzle to safe end:	B05.010.001A	3RPV-WR53
	B05.010.001B	3RPV-WR53
	B05.010.002A	3RPV-WR53A
Safe end to pipe:	B09.011.151	3-53A-15.1-44
	B09.011.159	3-53A-16-01

Request 7

Relief Request ONS-002, Reactor Vessel Nozzle to Pipe Welds

- (a) Please provide the isometrics listed in paragraph (a).
- (b) Please include the weld identification numbers for all three units in the Relief Request.
- (c) Please provide the weld drawing numbers listed for these welds in the Master Inspection Listing for all three units.
- (d) The proposed implementation scheduled (Paragraph 5) does not meet the Code requirements for this item, as specified in Tables IWB-2412-1 and IWB-2500-1. Please expand your Relief Request to include this deviation and provide justification.

Response 7

- (a) - A revised Request for Relief is included in Enclosure 2. A copy of each isometric is included with the revised Request for Relief.
- (b) - The revised Request for Relief includes all weld identification numbers.
- (c) - The weld identification drawings for all three units are included in the plan already submitted.
- (d) - The proposed implementation schedule fully meets all Code requirements for this item, as specified in Paragraph IWB-2420(a), Table IWB-2412-1, and Table IWB-2500-1.

DUKE POWER COMPANY

Oconee Nuclear Station Units 1, 2, and 3

Request For Relief From ASME Code Section XI
(1980 Edition Through Winter 1980 Addenda)
Inservice Inspection Requirement

Enclosure 2

B.I. Component for which exemption is requested:

a. Name and Identification Number:

Reactor Vessel Nozzle to Pipe Welds.
Isometrics: System 50, Iso 26 (Unit 1)
9 (Unit 2)
29 (Unit 3)

b. Function:

Provides reactor coolant flow to steam generators

c. ASME Section III Code Class:

Class 1

d. Valve Category:

N/A

II. Reference Code Requirement that has been determined to be impractical:

Table IWB-2500-1; Category B-J; Items B9.11
Surface Examination

III. Basis for Requesting Relief:

Relief requested from surface examination only.

There are four inlet and two outlet nozzle to pipe welds in each Oconee Reactor Coolant System. These nozzles are SA 508 Cl. 2, welded to A106 Gr. C pipe. The inlet nozzle welds are 33.50" diameter, 2.33" nominal wall thickness, and the outlet nozzles are 36" diameter, 2.86" nominal wall thickness.

These welds will be volumetrically inspected from the inside surface using an immersion ultrasonic technique, which will not require access to the OD surface of the weld. Preparing these welds for surface inspection will require removal of the refueling canal seal plate, shielding bricks, shielding supports in the nozzle areas, and insulation. This would require approximately 300 man-hours of work in a 700-100 MR/hour area for

III. Basis for Requesting Relief (cont.)

each unit. Shielding would be impractical in this area due to the limited space and close proximity to the reactor vessel.

IV. Alternate Examination:

Welds will be inspected from the inside surface. This will provide adequate assurance of weld integrity at the OD surface.

V. Implementation Schedule:

The outlet nozzle to pipe welds will be inspected during the first inspection period of the second interval. The inlet nozzle to pipe welds will be inspected during the third inspection period of the second interval.

Request 8

Relief Request ONS-005, Hydrotest of Pressurizer Relief Line Piping

- (a) Please provide the three isometrics referenced under Paragraph 1(a) of this Relief Request.
- (b) Please indicate, based on your own records or by communication with the manufacturer, whether it is practical to gag the relief valves so valve RC-4 could be left open during the hydrostatic test.
- (c) Please provide the weld identification numbers for the six welds (two for each unit) described under Paragraph 3.

Response 8

- (a) - A revised Request for Relief is included as Enclosure 3. The isometrics are included in the revised Request for Relief.
- (b) - The basis for requesting relief on ONS-005 is a concern for personnel safety. Because of a prior incident in which a nuclear equipment operation was burned, a station directive was written to prohibit entry into the pressurizer cavity with valve RC-4 open. The precaution was based upon the potential leakage of the pilot valve assembly of the power operated relief valve (PORV, RC-66) which could lead to opening of the main valve and actuation of the rupture disc in the quench tank. Steam released from the quench tank would fill the pressurizer and reactor coolant pump cavities. The PORV cannot be gagged as a conventional relief valve to prevent it from opening, but could have the breaker pulled to prevent the solenoid valve from accidentally being energized. This action, however, would not prevent the valve from opening if a leak developed in the pilot assembly. Because of the past experience with the PORV we feel the potential risk to personnel in the cavity is substantially greater with valve RC-4 open.
- (c) - The weld identification numbers are included in the revised Request for Relief.

DUKE POWER COMPANY

Oconee Nuclear Station Units 1, 2, and 3

Request For Relief From ASME Code Section XI
(1980 Edition Through Winter 1980 Addenda)
Inservice Inspection Requirement

Enclosure 3

E.I. Component for which exemption is requested:

a. Name and Identification Number:

Piping between 1RC-4 and 1RC-66 (SYS 50, ISO 47, Unit 1)
2RC-4 and 2RC-66 (SYS 50, ISO 44, Unit 2)
3RC-4 and 3RV-67 (SYS 50, ISO 45, Unit 3)

b. Function:

Pressurizer Relief

c. ASME Section III Code Class:

Class 1

d. Valve Category:

EMO and Relief Valve

II. Reference Code Requirement that has been determined to be impractical:

Table IWB-2500-1, Category B-P, Items B15.71

III. Basis for Requesting Relief:

Personnel safety requirements call for valve RC-4 to be closed during reactor coolant system pressure tests. This valve would have to be open to produce hydrostatic test conditions at valve RC-66 (or valve RV-67).

There is one 3" NPS, 0.438" wall weld, and one 2½" NPS, 0.375" wall weld between these two valves.

IV. Alternate Examination:

Both welds in each unit will receive a liquid penetrant inspection at or near the end of the inspection interval. This inspection will be done in addition to any other ISI inspections performed on the system.

V. Implementation Schedule:

This inspection will be performed on each unit at or near the end of the second ten-year inspection interval.

	<u>Item Number</u>	<u>Weld Number</u>
Oconee 1:	E03.001.001	1-50-47-3
	E03.001.002	1-50-47-4
Oconee 2:	E03.001.001	2-50-44-3
	E03.001.002	2-50-44-4
Oconee 3:	E03.001.001	3-50-45-3
	E03.001.002	3-50-45-4

Request 9

Blanket relief on Hydrostatic Testing

As indicated in general Question 2 above, blanket Request for Relief, as conveyed by your letter of November 16, 1984⁽³⁴⁾ on hydrostatic testing after maintenance or modification, is not acceptable at this time. Unless you can present very specific criteria and procedures for implementing this Relief Request, including criteria for seeking NRC approval on a case-by-case basis, the request is not likely to be granted for the second interval.

Response 9

See Response to Request 2.