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SUBJECT: Forwards request for Relief 95-01 from USAS B31.7 Nuclear Piping Code.Drawings encl.

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Drawings
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PRIORITY 1 DOCUMENT

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Oconee Nuclear Site
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DUKE POWER

February 09, 1995

U.S. Nuclear Regulatory Commission
Attention Document Control Desk
Washington, DC 20555

Subject: Duke Power Company
Oconee Nuclear Station, Units 1,2, and 3
Docket No. 50-269, 50-270, 50-287
Request for Relief No. 95-01

Pursuant to 10 CFR 50.55a, paragraph (a)(3)(ii), attached is a Request for Relief from USAS B31.7 Nuclear Piping Code (August 1969 edition). This request is to demonstrate that the hardship (due to excessive radiation exposure and cost) Duke Power would incur in examining the subject High Pressure Injection Recirculation Line Piping to Nuclear Piping Code USAS B31.7 initial construction requirements would not provide a commensurate increase in the level of health and safety to the public due to, 1) the already high level of quality standards to which the subject section of piping was constructed and, 2) the demonstrated in-service reliability of the subject section of piping.

If there are any questions or further information is needed you may contact D. A. Nix at (803) 885-3634.

Very truly yours,

J. W. Hampton
Site Vice President

Attachments

A001 Drawings
1/1 To: NRC File Center

xc (w/attchs): Mr. L. A. Wiens
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

xc (w/o attchs): Mr. S. D. Ebneter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission

Mr. P. E. Harmon
Senior NRC Resident Inspector
Oconee Nuclear Station

Mr. Virgil R. Autry
Bureau of Radiological Health
SC Dept. of Health & Environmental Control
2600 Bull St.
Columbia, SC 29201

OCONEE NUCLEAR STATION

Units 1, 2, and 3

Request # 95-01

1. Component for which relief is requested:

(a) Name and Number: HPI Pump Recirculation Line Piping from the stop check valves downstream of the block orifices to the Reactor Coolant Pump (RCP) seal return path; HPI piping downstream of HP-20 through seal return coolers to Letdown Storage Tank (LDST), including all letdown piping bounded by either Duke Class B piping or a normally closed isolation valve. These piping sections are marked on the attached Oconee Flow Diagrams (OFDs).

(b) Function: The recirculation piping provides a minimum flow path for the HPI Pumps during conditions where the discharge flow path of the HPI Pumps is highly throttled or isolated. The seal return path provides cooling and filtration of reactor coolant which has been circulated through the Reactor Coolant Pump seals. The RCP seal return path cannot be normally isolated from the HPI pump recirculation line path since both of these paths share a common discharge to the LDST and connecting letdown piping. Therefore, all of this piping must be upgraded to Duke Class B as required by Response to Deviation 94-24-05 dated December 19, 1994.

(c) ASME Class/Duke Class: II / Duke Class B (In Conversion from III / Duke Class C)

(d) IWV-2000 Valve Category: N/A

(e) Reference Documents (drawings, manuals)

OFDs: 101A-1.1, -2.1, -3.1
101A-1.2, -2.2, -3.2
101A-1.3, -2.3, -3.3
109A-1.1, -3.1

Welding Isometric Drawings

2. Reference Code Requirement that has been determined to be excessively burdensome:

USAS B31.7 Nuclear Piping Code (August 1969), Section 2-736.6, and Table A.7 (b).

3. Basis for requesting relief:

The purpose of this request is to present the significant level of hardship, without a compensating increase in the level of quality or safety, which would be incurred as a result of performing Construction Code examinations for the extensive sections of piping which the NRC (per Duke's Response to Deviation 94-24-05) has requested Duke to upgrade from Duke Class C to Duke Class B.

In upgrading this piping to Duke Class B, the Class II requirements of USAS B31.7 Code would apply in lieu of Class III requirements. This reclassification would require approximately 1000 welds to undergo a radiographic examination and 650 welds to undergo a penetrant test examination. These examinations would cost approximately $320,000 in NDE fees alone. The radiation exposure would be approximately 161 Person-Rem per Oconee Unit since the piping is located primarily in radiation areas with general area radiation levels ranging from 20 mRem/hr to over 650 mRem/hr. Considering that the total exposure for a typical Oconee refueling outage is only 120 person-Rem, the effects of this added site dosage would be extremely detrimental to Duke's radiation protection program. From a financial standpoint, this dosage equates to approximately 6 million dollars in lost revenue for Duke Power, assuming $12,500 per Person-Rem (accounting for training, dress-out, exposure records administration, etc.). Therefore, based on hardship, Duke is requesting relief from the Construction Code requirements associated with upgrading this piping from Duke Class C to Duke Class B.

4. Alternate Examination:

No alternate examinations are proposed. The current In-service Inspection and Testing program for this piping along with excellent material documentation, material traceability, welder records, welder qualification requirements, and over 20 years of reliable service provide assurance that this piping can perform adequately under the Duke Class B category.

5. Acceptability of proposed alternative testing with respect to the level of quality and safety as well as public health and safety:

All piping (Classes I, II, and III) constructed in accordance with the USAS B31.7 Nuclear Piping Code is recognized to be critical to assuring the plant can perform as designed in an accident. Duke is confident that the Class III piping used in the HPIP minimum flow piping will function as designed and is fully qualified for the conditions expected to be present during and after an accident. Considerations in this qualification include material compatibility, pressure/temperature rating, radiation levels, welding personnel qualifications, and weld certification records. Furthermore, little difference exists between Class II and Class III piping installed at Oconee. For the subject piping, there are no differences in piping Code material requirements, stress allowables, or pipe wall thickness requirements. Even though B31.7 Code requirements on material traceability are different between Class II and III, Duke self-imposed traceability requirements during original construction on Class III piping to standards equivalent to those specified for Class II piping. Additionally, the welders who installed the Class III piping were qualified to the same requirements as those required for Class II piping. The only difference between Construction Code requirements for Class II versus Class III welds was the requirement to perform radiographic examination on certain size and type welds on all Class II piping whereas only random radiographic examinations (for welder qualification/recertification purposes) were required on welds in Class III piping.

This piping has provided reliable service for Oconee for a period of over 20 years. During the majority of this time, this piping has been subjected to ISI (hydrostatically tested) in accordance with the requirements for ASME Section XI Class III piping. The placement of these piping sections into the ISI Class B (ASME Section XI Class II) program will provide additional assurance with respect to the piping integrity.

Performing the Construction Code required examinations would not increase the level of public safety or any level of quality commensurate with the immense programmatic and exposure costs which would be incurred in doing these examinations. The in-service reliability, excellent welding records, and increased level of in-service inspections provides an acceptable level of assurance with respect to the quality of these welds. Furthermore, the health and safety of the general public is ensured.

6. Implementation Schedule:

The subject piping will be Duke Class B, ASME Class II for all repairs, replacements, modifications, testing, and inspections. In order to achieve this end, all affected OFDs must be updated by Editorial Minor Modification, followed by a revision to the 3rd Interval ISI Plans for Units 1,2, and 3.

All Oconee OFDs will be updated to show the subject piping as "Duke Class B, ISI Class B". Also, all Oconee Units' Third Interval ISI Plans will be updated to include this piping. Applicable implementation dates are shown in the table below:

Implementation Table

Unit	Date OFDs Revised	Date ISI Plan Revised	Outage
1	06/25/95	08/25/95	10/25/95 (EOC16)
2	11/25/95	01/25/96	03/25/96 (EOC15)
3	06/30/96	08/30/96	10/30/96 (EOC16)

Requested By: _____ (Engineering) Date: 1/31/95

Reviewed By: _____ (Engineering Supv) Date: 2-1-95

QA Reviewed: _____ (QA Support) Date: 2-6-95

Approved By: _____ (Engineering Mgr) Date: 2-7-95

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50-269

Date JAN. 5, 1995 Control # 95 001

To: Jimmy D. Blanton, Project Officer
NUDOCS Document Processing and User Support Services Contract

From: Donald H. Lanham, Management Analyst
Document Processing Services Section

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Form Revised July 1994

MA 7

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Don

R. Michelle Sc 12/28 12:00 ACN 9412150240

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From: R. Michelle Schroll (RMS1)
To: DHL
Date: Wednesday, December 28, 1994 12:00 n
Subject: ACN 9412150240

Don, please check the above document. It appears to have proprietary info. PDR is on distribution w/o enclosure, but we got the enclosure. I have set aside the PDR copy and microfiche until I hear from you.

I called Jimmy this morning and he said someone would call me but I haven't heard from anyone. I'm uncertain of the correct contact.

I'll be at lunch from 12-1.

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