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July 31, 2000

Docket Nos. 50-321
50-366

HL-5964

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

**Edwin I. Hatch Nuclear Plant
Relief Requests Associated with
Implementation of ASME Section XI, Appendix VIII**

Ladies and Gentlemen:

By letter dated June 15, 2000, Southern Nuclear Operating Company (SNC) submitted four (4) relief requests associated with ultrasonic examination requirements as a result of the 10 CFR 50.55a rule change included in Federal Register Notice 64 FR 51370 dated September 22, 1999. These initial relief requests were developed utilizing the guidance of the latest published version of the Performance Demonstration Initiative (PDI) ASME Section XI, Appendix VIII Implementation Guideline. Subsequently, a PDI Workshop was held on July 17, 2000, which resulted in some minor changes to the Appendix VIII Implementation Guideline and the associated sample requests for relief.

SNC has reviewed the latest issued version of the Appendix VIII Implementation Guideline (Revision 1, dated July 11, 2000) and has determined that:

1. The previously submitted relief requests RR-32, RR-33, and RR-APP. VIII-1 are equivalent in technical content, basis for relief, justification for relief, and alternatives requirements to those included in the latest Appendix VIII Implementation Guideline. RR-33 has been modified as described in Attachment 1.
2. Previously submitted relief request RR-APP. VIII-2 is not appropriate and is thus being withdrawn by SNC. Should future ultrasonic examinations result in examination coverage that does not meet the ASME Section XI or 10CFR50.55a coverage requirements, SNC will submit additional relief requests, exemptions, or alternatives as appropriate.

Please note that the SNC relief requests are not exact reproductions of the Appendix VIII Implementation Guideline Requests for Relief. The SNC relief requests are formatted to agree with previously established structure. As a result of a meeting between NRC Region II, NRR, and SNC personnel, a procedure was developed for the generation of ASME Code relief requests. Therefore, SNC relief requests for Plant Hatch are developed in accordance with these procedure requirements and guidance to ensure consistency, accuracy, and to provide the types of information requested by NRC personnel.

A047

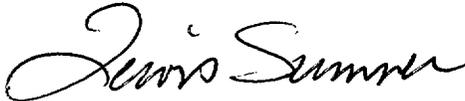
July 31, 2000

Attachment 1 is a matrix which provides a comparison of the requests for relief included as attachments in the Appendix VIII Implementation Guideline and their applicability to Plant Hatch along with the corresponding SNC relief request, if applicable. This matrix will aid NRC Staff personnel in cross referencing between the Appendix VIII Implementation Guideline and the SNC submitted relief requests. Attachments 2, 3 and 4 are the subject relief requests which are included merely for ease of reference by NRC staff personnel. Please disregard the requests for relief which were submitted by the letter dated June 15, 2000.

The Fall Plant Hatch Unit 1 outage is scheduled to begin on September 30, 2000. SNC is therefore requesting that the NRC staff review Relief Request RR-APP. VIII-1 on an expedited schedule. It is needed for implementation of the new ASME Section XI, Appendix VIII requirements this Fall and SNC requests NRC review by the original requested date of August 15, 2000. The remaining two relief requests will not be required until subsequent outages; however, SNC requests NRC review prior to the end of 2000.

Should you have any questions in this regard, please contact this office.

Respectfully submitted,



H. L. Sumner, Jr.

IFL/eb

- Attachment 1: Summary of PDI Implementation Guideline, Revision 1 – Request for Relief Applicability to Edwin I. Hatch Nuclear Plant
- Attachment 2: ISI Program Relief Request RR-32
- Attachment 3: ISI Program Relief Request RR-33
- Attachment 4: ISI Program Relief Request RR-App. VIII-1

cc: Southern Nuclear Operating Company
Mr. P. H. Wells, Nuclear Plant General Manager
SNC Document Management (R-Type A02.001)

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. L. N. Olshan, Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. J. T. Munday, Senior Resident Inspector – Hatch

ATTACHMENT 1

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL**

**SUMMARY OF PDI IMPLEMENTATION GUIDELINE
REVISION 1
REQUEST FOR RELIEF APPLICABILITY TO
EDWIN I. HATCH NUCLEAR PLANT**

**SUMMARY OF PDI IMPLEMENTATION GUIDELINE, REVISION 1 - REQUEST FOR RELIEF
APPLICABILITY TO EDWIN I. HATCH NUCLEAR PLANT**

PDI GUIDELINE RELIEF REQUEST	PLANT HATCH APPLICABILITY
APPENDIX C Sample Request for Relief - Welds Examined From the Inside Surface	Not applicable, there are no welds that are examined from the inside surface.
APPENDIX D Sample Request for Relief - Alternative Length Sizing Criteria	See Relief Request RR-APP. VIII-1. RR-APP. VIII-1 is equivalent to the PDI Sample Request for Relief in technical content. RR-APP. VIII-1 has been formatted to match other relief requests presently included in the Hatch ISI Program, and to add details which make it Plant Hatch Specific.
APPENDIX E Sample Request for Relief - Austenitic Welds Single Side Access	See Relief Request RR-APP. VIII-2. RR-APP. VIII-2 is equivalent to the PDI Sample Request for Relief in technical content. RR-APP. VIII-2 has been formatted to match other relief requests presently included in the Hatch ISI Program, and to add details which make it Plant Hatch Specific. However, upon further consideration, SNC has decided to withdraw this relief request. Should ultrasonic examinations be performed at Plant Hatch that do not meet the ASME XI or the 10CFR50.55a examination coverage requirements, additional relief requests and/or exemptions will be submitted by SNC for NRC review on a case-by-case basis.
APPENDIX E Sample Request for Relief - RPV Single Side Access	Not applicable, there are no RPV welds that are examined from one side only.
APPENDIX F Sample Request for Relief - Continue Using ASNT SNT-TC-1A for Ultrasonic Examinations	SNC's evaluation of the Rule results in the position that the only requirements are for implementation of the ASME Section XI, Appendix VIII Supplements in accordance with the expedited implementation schedule. The requirements associated with the qualification and certification of NDE personnel remain the same as those included in the Plant's ASME Section XI Code of Record, i.e., 1989 Edition. Therefore, this Request for Relief is not required.
APPENDIX G Sample Request for Relief - Use CP-189 for Qualification of Ultrasonic Examination Personnel	As stated above, the only requirements are for implementation of the ASME Section XI, Appendix VIII Supplements in accordance with the expedited implementation schedule. The requirements associated with the qualification and certification of NDE personnel remain the same as those included in the Plant's ASME Section XI Code of Record, i.e., 1989 Edition. Therefore, this Request for Relief is not required.
APPENDIX H Sample Request for Relief - Corrosion Resistant Cladding	Not applicable, PDI considers this to be beyond the current scope of ASME Section XI, Appendix VIII, Supplement 2 and suggests that Licensees contact the PDI prior to submittal of this Request for Relief.

**SUMMARY OF PDI IMPLEMENTATION GUIDELINE, REVISION 1 - REQUEST FOR RELIEF
APPLICABILITY TO EDWIN L HATCH NUCLEAR PLANT**

<p>APPENDIX I Sample Request for Relief - Code Case 613</p>	<p>See Relief Request RR-32. RR-32 is equivalent to the PDI Sample Request for Relief in technical content. RR-32 has been formatted to match other relief requests presently included in the Hatch ISI Program, and to add details which make it Plant Hatch Specific. It is SNC practice to include a copy of any Code Cases referenced in relief requests as part of the relief request. The PDI sample request for relief makes only reference to Code Case N-613.</p>
<p>APPENDIX J Sample Request for Relief - Annual Ultrasonic Retraining</p>	<p>See Relief Request RR-33. RR-33 is equivalent to the PDI Sample Request for Relief in technical content. RR-33 has been formatted to match other relief requests presently included in the Hatch ISI Program, and to add details which make it Plant Hatch Specific. It is SNC practice to include a copy of any Code Cases referenced in relief requests as part of the relief request, therefore Code Case N-583 is included.</p> <p>Note that RR-33 has been revised to include "in conjunction with 10CFR50.55a(b)(2) (xiv)" in the Alternate Examination paragraph. SNC is not requesting an alternative to the requirements of 10CFR50.55a(b)(2)(xiv). SNC understands that the CFR still applies and will be incorporated along with our proposal to utilize ASME Section XI Code Case N-583.</p>

ATTACHMENT 2

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL**

REQUEST FOR RELIEF NO. RR-32

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-32**

- I. System/Component for Which Relief is Requested: ASME Section XI, 1989 Edition, Examination Category B-D, Full Penetration Welds of Nozzles in Vessels, Item B3.90, Figure IWB-2500-7(b).
- II. Code Requirement: ASME Section V, 1989 Edition, Article 4, Paragraphs; T-441.3.2.5 *Angle Beam Scanning*, T-441.3.2.6 *Scanning for Reflectors Oriented Parallel to the Weld*, and T-441.3.2.7 *Scanning for Reflectors Oriented Transverse to the Weld* require ultrasonic scanning with search units aimed in multiple orientations and directions.
- III. Code Requirement for Which Relief is Requested: Relief is requested from the strict requirements of ASME Section V, 1989 Edition, Article 4, Paragraphs; T-441.3.2.5, T-441.3.2.6, and T-441.3.2.7 as related to ultrasonic search unit scanning orientations and directions.
- IV. Basis for Relief: SNC is currently required to perform inservice examinations of vessel welds at Plant Hatch in accordance with the requirements of the 1989 Edition of the ASME Section XI Code. This Code edition invokes the examination volume requirements of Figure IWB-2500-7(b) for the Reactor Pressure Vessel (RPV) nozzle configurations. This Code edition also invokes the examination requirements of Appendix I, Article I-2000 which reference ASME Section V, Article 4 that is based on ultrasonic examination technology and methodology that is essentially twenty (20) years old. Recent 10 CFR 50.55a Rule changes have endorsed later versions of the ASME XI Code and mandated implementation of ASME Section XI, 1995 Edition and 1996 Addenda, Appendix VIII. Appendix VIII is based on the demonstrated capabilities of equipment, personnel and procedures to detect flaws within the examination volume of interest.
- V. Alternate Examination: Perform vessel nozzle-to-shell weld examinations scanning for reflectors oriented parallel to the weld in accordance with ASME Section XI Code Case N-613.
- VI. Justification for Granting Relief: Pursuant to 10 CFR 50.55a (a)(3)(i), SNC requests approval to use the alternative ultrasonic examination requirements of ASME Section XI, Code Case N-613 in lieu of the requirements of ASME Section XI Figure IWB-2500-7(b) at Plant Hatch. SNC also request approval to use Code Case N-613 in lieu of the requirements of ASME Section V, Article 4 for the performance of the required volumetric examinations as specified in Table IWB-2500-1, Category B-D, of the 1989 Edition of ASME Section XI.

The examination volume for the RPV pressure retaining nozzle-to-vessel welds extends far beyond the weld into the base metal, and is unnecessarily large. This extends the examination time significantly, and results in no net increase in safety, as the area being examined is a base

metal region which is not prone to inservice cracking and has been extensively examined before the vessel was put into service and during the first inservice examination.

The implementation of Code Case N-613 will provide added assurance that the RPV welds have remained free of service related flaws thus enhancing quality and ensuring plant safety and reliability. Use of this Code Case will also reduce the on-vessel examination time by as much as 12 hours/nozzle which results in potential significant cost savings and reduced personnel radiation exposure. Therefore, relief is warranted in accordance with 10 CFR 50.55a(a)(3)(i) since ultrasonic examination techniques demonstrated in accordance with the criteria of Appendix VIII provide an acceptable level of quality and safety.

VII. Implementation Schedule: The relief request is applicable for the Third 10-Year Interval.

VIII. Relief Request Status: Submitted to NRC for review and approval.

Reference: ASME Section XI Code Case N-613 attached (pages 3 through 6).

**CASE
N-613**

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: July 30, 1988
*See Numeric Index for expiration
and any reaffirmation dates*

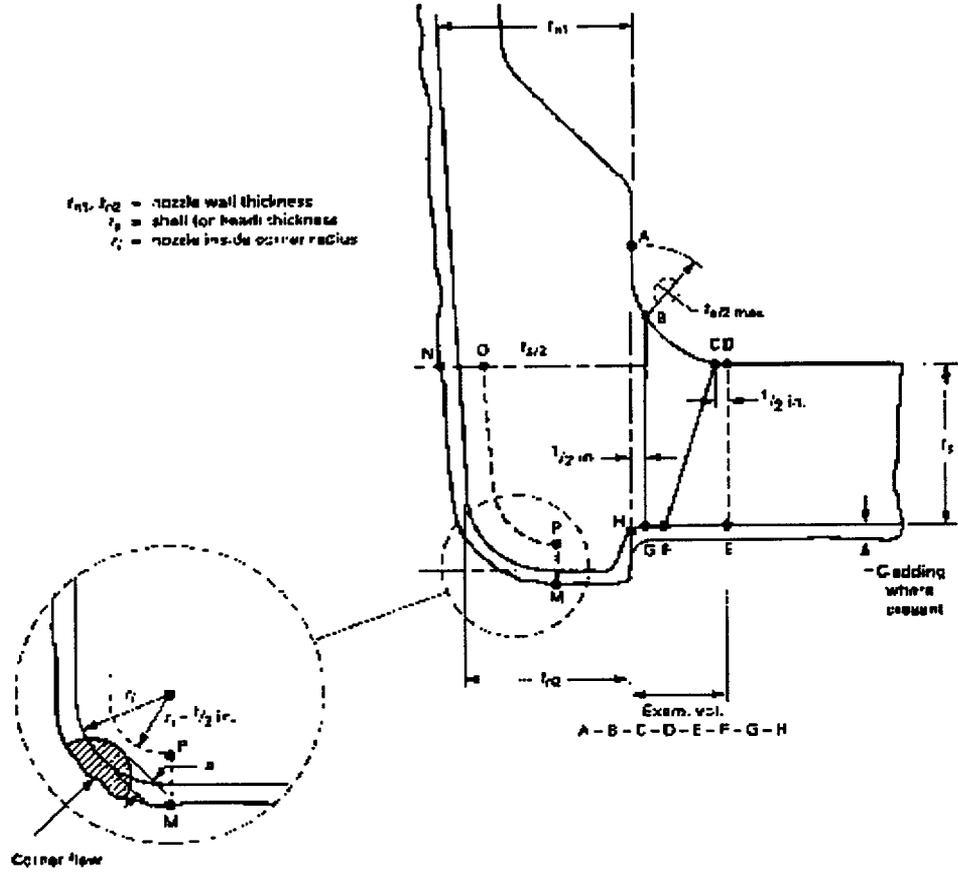
Case N-613
Ultrasonic Examination of Full Penetration
Nozzles in Vessels, Examination Category B-D,
Item No's. B3.10 and B3.90, Reactor Vessel-To-
Nozzle Welds, Fig. IVFB-2500-7(a), (b), and (c)
Section XI, Division 1

Inquiry: What alternatives to the examination requirements of Section XI, Appendix I and Section V, Article 4 are permissible when performing ultrasonic examination of reactor vessel-to-nozzle welds?

Reply: It is the opinion of the Committee that ultrasonic examination of Category B-D nozzles may be conducted using techniques designed for detection and sizing of surface and subsurface flaws within the examination volume (A-B-C-D-E-F-G-H), oriented in a plane normal to the vessel inside surface and parallel to the weld for Figs. 1 and 2, and oriented in a plane normal to the nozzle inside surface and parallel to the weld for Fig. 3.

CASE (continued)
N-613

CASES OF ASME BOILER AND PRESSURE VESSEL CODE



EXAMINATION REGION (Note 1)

- Shell (or head) adjoining region
- Attachment weld region
- Nozzle cylinder region
- Nozzle inside corner region

EXAMINATION VOLUME (Note 2)

- C-D-E-F
- B-C-F-G
- A-B-G-H
- M-Y-Q-P

NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in RW 5-3612.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

FIG. 1 NOZZLE IN SHELL OR HEAD
 (Examination Zones in Barrel Type Nozzles Joined by Full Penetration Corner Welds)

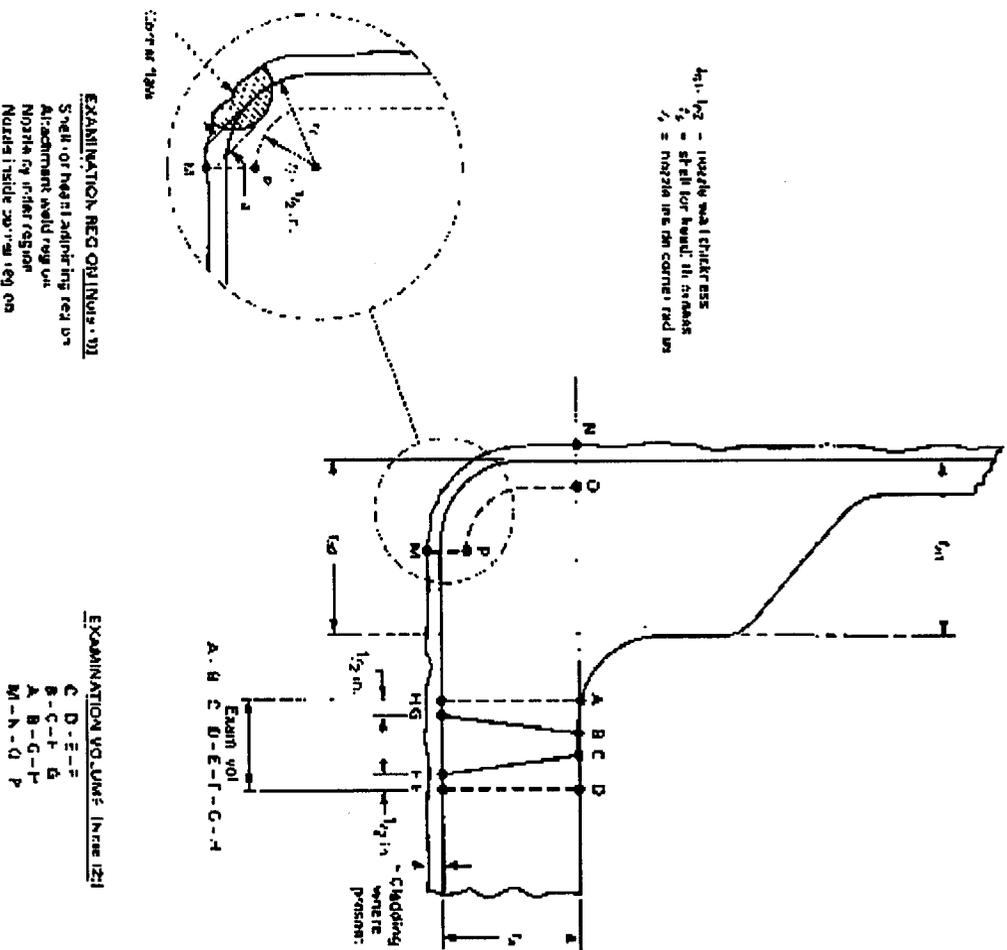


FIG. 2 NOZZLE TO SHELL OR HEAD
 [Examination Zones in Flange Type Nozzles Joined by Full Penetration Butt Welds]

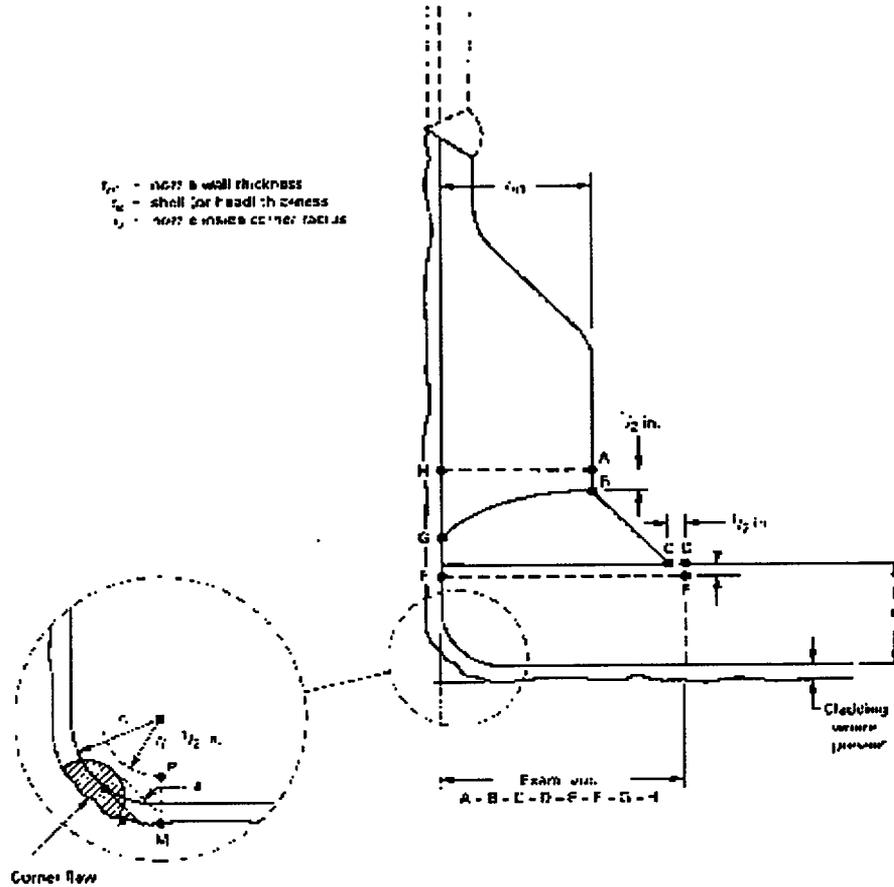
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SUPP. 2 - NC

CASE (continued)

N-613

CASES OF ASME BOILER AND PRESSURE VESSEL CODE



EXAMINATION REGION [Note (1)]

- Shell for head, adjoining region
- Anchoring weld region
- Nozzle cylinder region
- Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]

- C - D - E - F - G
- B - C - G
- A - B - G - H
- M - N - O - F

NOTES

- (1) Examination regions are identified for the purpose of determining the acceptance standards in WR-3517
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings

FIG. 3 NOZZLE IN SHELL OR HEAD
(Examination Zones in Set-On Type Nozzles Joined by Full Penetration Corner Welds)

ATTACHMENT 3

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL**

REQUEST FOR RELIEF NO. RR-33

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-33**

- I. System/Component for Which Relief is Requested: All components subject to ultrasonic examination.
- II. Code Requirement: ASME Section XI, 1989 Edition, Appendix VII, Article-4000, paragraph VII-4240 ANNUAL TRAINING.
- IV. Code Requirement for Which Relief is Requested: Relief is requested from the requirement of ASME Section XI, 1989 Edition, Appendix VII, Article-4000, Paragraphs VII-4240 for a minimum of 10 hours of annual training for Level I, II, and III NDE personnel.
- VI. Basis for Relief: The 1989 Edition of ASME Section XI, Appendix VII was developed prior to the requirements for the NDE Performance Demonstration Initiative (PDI). The ASME Section XI Code Committee recognized that with the implementation of ASME Section XI, Appendix VIII and the PDI, that the requirements of Appendix VII, paragraph VII-4240 did not adequately address the type, extent, and frequency of training required to maintain ultrasonic examination proficiency. Therefore, Code Case N-583 was developed in response to an inquiry related to training requirements and was subsequently incorporated into the 1998 Edition with 1999 Addenda of ASME Section XI, Appendix VII.

Paragraph 2.4.1.1.1 of Federal Register (Volume 64, No. 183 dated September 22, 1999 contained the following statement, "The NRC had determined that this requirement (*10 hours of training on an annual basis*) was inadequate for two reasons. The first reason was that the training does not require laboratory work and examination of flawed specimens. Signals can be difficult to interpret and, as detailed in the regulatory analysis for this rule making, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within approximately 6 months if skills are not maintained. Thus, the NRC had determined that 10 hours of annual training is not sufficient practice to maintain skills, and that an examiner must practice on a more frequent basis to maintain proper skill levels... The PDI program has adopted a requirement for 8 hours of training, but it is required to be hands-on practice. In addition, the training must be taken no earlier than 6 months prior to performing examinations at a licensee's facility. PDI believes that 8 hours will be acceptable relative to an examiner's abilities in this highly specialized skill area because personnel can gain knowledge of new developments, materials failure modes, and other pertinent topics through other means. Thus, the NRC has decided to adopt in the Final Rule the PDI position on this matter. These changes are reflected in 10 CFR 50.55a(b)(2)(xiv)".

The September 22, 1999 version of 10 CFR 50.55a(b)(2)(xiv) states: "(xiv) Appendix VIII personnel qualification. All personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of annual hands-on raining on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility."

Code Case N-583 responded to an inquiry related to an alternative to the annual training requirements of Appendix VII-4240. The reply states "... supplemental practice may be used to maintain UT personnel examination skills. Personnel shall practice UT techniques by examining or by analyzing prerecorded data from materials or welds containing flaws similar to those that may be encountered during inservice examinations. This practice shall be at least 8 hr per year and shall be administered by an NDE Instructor or Level III; no examinations required.

- VII. Alternate Examination: Use ASME Section XI Code Case N-583 in conjunction with 10CFR50.55a(b)(2)(xiv).
- VI. Justification for Granting Relief: Pursuant to 10 CFR 50.55a (a)(3)(i), SNC requests approval to use the alternative annual NDE personnel training requirements defined in ASME Section XI, Code Case N-583. Effective May 22, 2000, the requirements of ASME Section XI, 1995 Edition and 1996 Addenda, Appendix VIII are applicable for inservice inspection (ISI) at all nuclear power plants within the United States. These Appendix VIII requirements will be implemented at Plant Hatch via the industry PDI. Implementation of Appendix VIII, via the PDI, provides for more stringent requirements for qualification and demonstration of personnel, equipment and procedure utilized for ISI.

The application of Code Case N-583, in conjunction with the requirements for ASME Section XI, Appendix VIII, will provide adequate assurance that Level I, II and III NDE personnel receive sufficient supplemental practice to maintain their ultrasonic examination skills. Therefore, relief is warranted in accordance with 10 CFR 50.55a(a)(3)(i) since use of Code Case N-583 in conjunction with the 1995 Edition, 1996 Addenda of ASME Section XI, Appendix VIII provide an acceptable level of quality and safety.

- VII. Implementation Schedule: The relief request is applicable for the Third 10-Year Interval.
- VIII. Relief Request Status: Submitted to NRC for review and approval.

Reference: ASME Section XI Code Case N-583 attached.

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: August 14, 1997
See Numeric Index for expiration
and any reaffirmation dates.

Case N-583
Annual Training Alternative
Section XI, Division 1

Inquiry: What alternative to the annual training requirements of Appendix VII-4240 may be used?

Reply: It is the opinion of the Committee that, as an alternative to the requirements of Appendix VII-4240, supplemental practice may be used to maintain UT personnel examination skills. Personnel shall practice UT techniques by examining or by analyzing prerecorded data from material or welds containing flaws similar to those that may be encountered during inservice examinations. This practice shall be at least 8 hr per year and shall be administered by an NDE Instructor or Level III; no examination is required.

ATTACHMENT 4

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL**

REQUEST FOR RELIEF NO. RR-APP. VIII-1

**SOUTHERN NUCLEAR OPERATING COMPANY
HATCH NUCLEAR PLANT, UNIT 1 & 2
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-APP. VIII-1**

- I. System/Component for Which Relief is Requested: ASME Section XI, Class 1, Examination Category B-A, Item no. B1.10, Reactor Pressure Vessel (RPV) Shell welds and B1.20 RPV Head welds.
- II. Code Requirement: ASME Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(b), length sizing acceptance criteria, requires that flaw lengths, estimated by ultrasonics, be the true length $-\frac{1}{4}$ inch +1 inch.
- V. Code Requirement for Which Relief is Requested: Relief is requested to not use the length sizing acceptance criteria specified by Appendix VIII, Supplement 4, Subparagraph 3.2(b).
- VI. Basis for Relief: 10 CFR 50.55a, as amended by Federal Register Notice 64 FR 51370, dated September 22, 1999, requires the implementation of the ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplements 4 and 6 for the ultrasonic examination of RPV shell and head welds. The required implementation date for Supplements 4 and 6 is November 22, 2000. The length sizing acceptance criteria in this edition of Supplement 4 is not in agreement with the Performance Demonstration Initiative (PDI) Program. The PDI has been used to qualify RPV inspection procedures, equipment, and personnel. This sizing criteria difference was resolved in ASME Section XI Code Case N-622, however, Code Case N-622 has not been endorsed by the Nuclear Regulatory Commission (NRC) via inclusion in Regulatory Guide 1.147 and the revised criteria were not included in the 10 CFR 50.55a, Final Rule. The NRC previously agreed that this was an oversight in drafting the Rule and that it will be corrected in the next revision of the Rule.
- V. Alternate Examination: In lieu of the length sizing requirements the ASME Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(b), the length sizing acceptance criteria of 0.75 inch RMS error, as utilized by the PDI, will be used.
- VI. Justification for Granting Relief: Qualifications administered by the PDI have used a length sizing acceptance criteria of 0.75 inch RMS error since the inception of these demonstrations in 1994. This length sizing tolerance is included in ASME Code Case N-622. Relief for use of this Code Case has been previously granted by the NRC.

The NRC performed an assessment of the PDI program in 1995. As a part of this assessment, the NRC reviewed exceptions to the ASME Code, which were parts of the PDI Program. The assessment report states that that NRC "does not take exception" to the 0.75-inch RMS error length sizing tolerance (Ref. 1).

Conversations between NRC Staff and representatives from PDI were held on January 12, 2000. In this conversation, it was acknowledged that the 0.75-inch RMS length sizing criteria should have been addressed in the modifications provided for Supplement 4 to Appendix VIII in 10 CFR 50.55a(b)(2)(xv)(C). It was also stated that this would be corrected in future

revisions (Ref. 2). Therefore, application of the alternative length sizing criteria of the PDI provides an acceptable level of quality and safety and is warranted per 10 CFR 50.55a(a)(3)(i).

VII. Implementation Schedule: The relief request is applicable for the Third 10-Year Interval. Appendix VIII, Supplement 4 will be implemented by November 22, 2000, as required by the final rule.

VIII. Relief Request Status: Submitted to NRC for review and approval.

References:

1. NRC Assessment of the PDI Program, Jack R. Strosnider, Chief Materials and Chemical Engineering Branch, to Bruce J. Sheffel, Chairman, PDI, March 6, 1996, Table 2, Item 94-005, p34.
2. Meeting Summary, Teleconference between NRC and representatives from PDI, D. G. Naujock, Metallurgist, NDE & Metallurgy Section, to Edmund J. Sullivan, Chief NDE & Metallurgy Section, Chemical Engineering Branch, Division of Engineering, U.S. NRC, March 6, 2000.