

**H. L. Sumner, Jr.**  
Vice President  
Hatch Project

**Southern Nuclear  
Operating Company, Inc.**  
Post Office Box 1295  
Birmingham, Alabama 35201  
Tel 205.992.7279



August 3, 2005

Docket Nos.: 50-321  
50-366

NL-05-1059

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

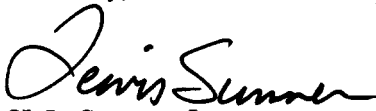
Edwin I. Hatch Nuclear Plant  
Third and Fourth 10-Year Interval Inservice Inspection (ISI) Programs  
Submittal of Revised Alternative

Ladies and Gentlemen:

By letter dated March 30, 2005 Southern Nuclear Operating Company (SNC) submitted relief requests, alternatives, and an exemption request for the Edwin I. Hatch Nuclear Plant Fourth 10-Year Interval ISI program. In response to subsequent discussions with NRC staff, Enclosure 3 of the March 30, 2005 letter, Alternative ISI-ALT-1 has been revised. The revised Alternative is enclosed to replace the version submitted by the March 30, 2005 letter.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,



H. L. Sumner, Jr.

HLS/ifl/daj

Enclosure: Revised Enclosure 3 - ISI-ALT-1, Version 2

cc: Southern Nuclear Operating Company  
Mr. J. T. Gasser, Executive Vice President  
Mr. G. R. Frederick, General Manager - Plant Hatch  
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission  
Dr. W. D. Travers, Regional Administrator  
Mr. C. Gratton, NRR Project Manager - Hatch  
Mr. D. S. Simpkins, Senior Resident Inspector - Hatch

**Enclosure 3**  
**SOUTHERN NUCLEAR OPERATING COMPANY (SNC)**  
**ISI-ALT-1, VERSION 2.0**  
**PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i)**

<b>Plant Site-Unit:</b>	Edwin I. Hatch Nuclear Plant-Units 1 and 2.
<b>Interval-Interval Dates:</b>	4 <sup>th</sup> ISI Interval extending from January 1, 2006 through December 31, 2015.
<b>Requested Date for Approval and Basis:</b>	Approval is requested by December 1, 2005 to support examinations performed during 1R22 (scheduled for February 2006).
<b>ASME Code Components Affected:</b>	Category B-A, reactor pressure vessel (RPV) shell-to-flange weld (Item B1.30) and head-to-flange weld (Item B1.40).
<b>Applicable Code Edition and Addenda:</b>	<p>Fourth interval examinations will be performed per the requirements of ASME Section XI, 2001 Edition through the 2003 Addenda, as amended by 10 CFR 50.55a.</p> <p>Per 10 CFR 50.55a(b)(2)(xxiv), the use of Appendix VIII and supplements to Appendix VIII of Section XI of the 2002 Addenda through the 2003 Addenda is prohibited. Therefore, for Appendix VIII and supplements to Appendix VIII the 2001 Edition of Section XI (no addenda) will be used.</p>
<b>Applicable Code Requirements:</b>	<p>10 CFR 50.55a required that ASME Section XI, Appendix VIII, Supplement 4, "Qualification Requirements For The Clad/Base Metal Interface of Reactor Vessel," and Supplement 6, "Qualification Requirements For Reactor Vessel Welds Other Than Clad/Base Metal Interface," be implemented for most of the RPV welds by November 22, 2000. However, the RPV shell-to-flange weld and head-to-flange weld examinations were not included in this requirement. For these welds, ASME Section XI, Appendix I, I-2100(b) currently requires that ultrasonic (UT) examination , which includes personnel qualification, procedures, scanning and examination requirements of the subject welds be conducted in accordance with Article 4 of Section V.</p>
<b>Reason for Request:</b>	<p>The RPV shell-to-flange weld and head-to-flange weld are not required to be conducted in accordance with Appendix VIII to Section XI, but instead are required to be conducted per Article 4 of Section V. The use of this alternative will allow the use of Performance Demonstration Initiative (PDI) qualified procedures to perform the examination of these welds in lieu of Article 4 of Section V requirements.</p>

**Enclosure 3**  
**SOUTHERN NUCLEAR OPERATING COMPANY (SNC)**  
**ISI-ALT-1, VERSION 2.0**  
**PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i)**

**Proposed  
Alternative and  
Basis for Use:**

During the upcoming 4<sup>th</sup> Interval examinations, SNC proposes to perform ultrasonic examinations using, personnel qualification, procedures, scanning, and equipment that are demonstrated and qualified in accordance with ASME Section XI, 2001 Edition (no addenda), Appendix VIII, Supplements 4 and 6 as amended by 10 CFR 50.55a for the RPV shell-to-flange weld and RPV head-to-flange weld. The examination will be performed manually or automated, as qualified in accordance with ASME Section XI, 2001 Edition (no addenda), Appendix VIII, Supplements 4 and 6 as amended by 10 CFR 50.55a and the PDI demonstration process. Since the examination is performed from a single side due to the weld configuration, all procedures, personnel and equipment will be qualified for single side access for scanning of this weld. Additionally, the non-qualified ultrasonic techniques performed from the RPV vessel flange surface during previous examinations will be eliminated because they do not appreciably improve flaw detection and they do not improve the reliability of the examination.

Appendix VIII requirements were developed to ensure the effectiveness of UT examinations within the nuclear industry by means of a rigorous, item-specific performance demonstration. The performance demonstration (through PDI) was conducted on RPV mockups containing flaws of various size and allocations. The demonstration established the capability of equipment, procedures, and personnel to find flaws that could be detrimental to the integrity of the RPV. The performance demonstration showed that for the detection of flaws in RPV welds, the UT techniques were equal to or surpassed the requirements of the Section V, Article 4 of the ASME Code. Additionally, the PDI qualified sizing techniques is considered to be more accurate than the techniques used in Article 4 of Section V.

Although Appendix VIII is not required for the RPV shell-to-flange weld and RPV head-to-flange weld, the use of Appendix VIII Supplement 4 and 6 criteria for detection and sizing of flaws in these welds will be equal to or will exceed the requirements established by Article 4 of Section V. Therefore, the use of this proposed alternative will continue to provide an acceptable level of quality and safety, and approval is requested pursuant to 10 CFR 50.55a(a)(3)(i).

**Duration of  
Proposed  
Alternative:**

The proposed alternative is applicable for the 4<sup>th</sup> Inservice Inspection Interval, extending from January 1, 2006 through December 31, 2015.

**Precedents:**

NA

**References:**

None

**Status:**

Awaiting NRC approval.