

March 20, 2000

Mr. H. L. Sumner, Jr.
Vice President - Nuclear
Hatch Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR POWER STATION, UNITS 1 AND 2
RE: APPROVAL OF RELIEF REQUEST RR-27, THIRD-YEAR INTERVAL
INSERVICE INSPECTION PROGRAM (TAC NOS. MA6163 AND MA6164)

Dear Mr. Sumner:

By letter dated July 30, 1999, Southern Nuclear Operating Company (the licensee) submitted nine relief requests for the third 10-year interval inspection program for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The third 10-year interval for both units began on January 1, 1996, and ends on December 31, 2005. By letter dated February 11, 2000, we approved eight of the nine relief requests and committed to address relief request RR-27 in the future.

Relief request RR-27 proposes application of Code Case N-528 to the licensee's third 10-year inspection interval. The code case provides an alternative to certain administrative requirements of Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, when materials used for safety-related replacement applications are obtained from other nuclear plant sites.

Application of the alternative requires ASME certification documentation to be transferred with the material to the licensee, who subsequently maintains this documentation. The licensee is responsible for ensuring that the material is in conformance with all other Code requirements, applicable design requirements, its Appendix B quality assurance program, and other regulatory requirements and commitments.

The requirements imposed by Code Case N-528 provide reasonable assurance that the alternative provides an acceptable level of quality and safety, in accordance with

H. L. Sumner, Jr.

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paragraph 50.55a(a)(2)(i). The alternative is acceptable and may be applied for the remainder of the licensee's third 10-year inspection interval. Our safety evaluation is enclosed.

Sincerely,

/RA/

Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
ASME SECTION XI RELIEF REQUEST RR-27 (COMPONENT REPLACEMENT),
THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM
SOUTHERN NUCLEAR OPERATING COMPANY
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

By letter dated July 30, 1999, Southern Nuclear Operating Company (the licensee) submitted relief request RR-27 for the third 10-year interval inspection program for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The licensee's inspection program was developed using the criteria defined in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (hereafter referred to as the Code) Section XI, 1989 Edition. The third 10-year interval began on January 1, 1996, and ends on December 31, 2005. By letter dated February 11, 2000, we approved eight of the nine relief requests and committed to address relief request RR-27 in the future.

The relief request proposes to adopt ASME Code Case N-528 as an alternative means of satisfying certain requirements of Section XI, Subarticle IWA-7210, "Code Applicability," with respect to the possession of a Certificate of Authorization or Quality System Certificate (Materials). This safety evaluation addresses the acceptability of this alternative.

2.0 BACKGROUND

2.1 Regulatory Requirements (Procurement)

Appendix B to 10 CFR Part 50 contains the NRC's regulations for procurement quality assurance and quality control for items to be used in safety-related applications. The NRC has provided further guidance in Regulatory Guides 1.33 and 1.123; RG-1.33 endorses ANSI N18.7-1976 and ANSI N45.2.13-1976. For replacement parts, RG-1.123 also specifically endorses section 5.2.13 of ANSI N18.7-1976. These standards supplement the Appendix B criteria in providing further guidance for procurement of safety-related applications. This guidance, if properly implemented, provides a measure of assurance for the suitability of equipment for safety-related applications.

Enclosure

Criterion III of Appendix B requires licensees to select and review for suitability of application materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems, and components. Criterion IV requires that procurement documents specify the applicable requirements necessary to ensure functional performance. Criterion VII requires licensees to assure that the following are sufficient to identify whether specification requirements for the procured material and equipment have been met: source evaluation and selection, objective evidence of quality, inspection of the source, and examination of products upon delivery. The process of ensuring compliance with 10 CFR Part 50, Appendix B, must include all those activities necessary to establish and confirm the quality and suitability of the procured material and equipment for their intended safety-related application.

2.2 Regulatory Requirements (ASME)

Section 50.55a, "Codes and Standards," of 10 CFR Part 50 requires, in part, that each operating license for a boiling or pressurized water-cooled nuclear power facility be subject to the conditions in paragraph 50.55a(g), "Inservice Inspection Requirements." Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in paragraph 50.55a(b). Paragraph 50.55a(b) incorporates the 1989 edition of Section XI, Division 1, through the 1988 addenda, for Class 1, Class 2, and Class 3 components and the 1992 edition, through the 1992 addenda, for Class MC and Class CC components.

2.2 Alternatives to Section XI Inservice Inspection Requirements

The regulations require that inservice inspection of certain components be performed in accordance with Section XI of the ASME Code and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to 10 CFR 50.55a, paragraph (a)(3)(i), (a)(3)(ii), or (g)(6)(i). These provisions provide for relief when the licensee demonstrates that (1) the proposed alternative would provide an acceptable level of quality and safety, (2) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, or (3) the Code requirements are impractical.

The ASME Boiler and Pressure Vessel Committee publishes a document entitled "Code Cases," which is updated every three years. Generally, the individual Code Cases that make up this document explain the intent of Code rules or provide for alternative requirements under special circumstances. Most Code Cases are eventually superseded by revision of the Code and then are annulled by action of the ASME.

Regulatory Guide RG-1.147 lists those Section XI ASME Code Cases that are generally acceptable to the NRC staff for implementation in the inservice inspection of light-water-cooled nuclear power plants. Code Cases that are not listed in RG-1.147 require supplementary provisions on an individual plant basis to attain endorsement status. The staff has not generally endorsed Code Case N-528 by inclusion in RG-1.147 and, consequently, its acceptability must be evaluated on an individual plant basis.

2.3 Affected ASME Code Requirements

Article IWA-7000 of the Section XI, 1989 edition (Article IWA-4000, subsequent to the 1991 addenda) provides the rules and requirements for the specification and construction of items to be used for replacement. Replacement includes the addition of components, such as valves, pumps and system changes, such as rerouting of piping. Subarticle IWA-7210 (IWA-4170) requires that an item to be used for replacement meet the original Construction Code (Section III of the Code) and existing design requirements. Article NCA-3000 of Section III of the Code defines the responsibilities of N Certificate Holders. Subarticle NCA-3700 defines the responsibilities of holders of Certificates of Authorization, which is generally the organization which performs the activities to place and attach components to their support structures. The responsibilities of N Certificate Holders include surveying, qualifying, and auditing suppliers of subcontracted services, including material suppliers and material manufacturers. When material suppliers or material manufacturers hold a Quality System Certificate (Materials), as defined in subarticle NCA-3800, the Certificate Holder does not need to survey or audit the supplier for work within the scope of the Quality System Certificate.

2.4 Code Case N-528

Case N-528 applies to metallic material (meeting the definition of IWA-9000) that is purchased, exchanged, or transferred between nuclear plant sites. Case N-528 provides an alternative to the specific administrative requirements of Section III that refer to possession of a Certificate of Authorization or Quality System Certificate (Materials). The case was approved by the ASME Boiler and Pressure Vessel Committee on December 12, 1994, and reaffirmed on August 14, 1997.

Code Case N-528 provides an alternative to the requirements of NCA-3700/NCA-3800 in that the responsibilities of the N Certificate Holders are, in fact, imposed on the supplying plant. All documentation required by NCA-3700/NCA-3800 are provided to the receiving plant with the material.

For material that has been fabricated in accordance with specific dimensional requirements, in addition to those provided in a national standard (e.g., nonwelded valve bonnet or nonwelded pump casing), Code Case N-528 requires the licensee to include in the evaluation of suitability, which is required by IWA-7220 (IWA-4150), an evaluation of the material for its intended application, including any differences that might affect form, fit, or function.

The licensee shall obtain, and incorporate into its plant record system, certifying documentation that the subject material was purchased in accordance with the provisions of NCA-3700/NCA-3800 and maintained in accordance with the supplier's quality assurance program.

The licensee shall also obtain and incorporate into its plant records system, certification provided by the supplier that the material was not placed in service, nor subject to any operation that might affect the mechanical properties of the material. The licensee shall document on the ASME Owner's Report for Inservice Inspection (Form NIS-2) each instance in which Code Case N-528 was applied.

3.0 EVALUATION

With the exception to the ASME Section XI administrative requirements explicitly stated by Code Case N-528, the licensee makes no changes to its approved Appendix B program or regulatory guides to which it has committed. The licensee's quality assurance program conforms to the guidance provided by RG-1.33, Revision 2 and RG-1.123, Revision 1.

With respect to Appendix B criteria, Criterion VII provides the specific regulatory requirements for control of purchased material, equipment, and services. Criterion VII requires, in part, that

"...measures be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery. Documentary evidence that material and equipment conform to the procurement requirements shall be available at the nuclear power plant or fuel reprocessing plant site prior to installation or use of such material and equipment. This documentary evidence shall be retained at the nuclear power plant or reprocessing plant site and shall be sufficient to identify the specific requirements, such as codes, standards, or specifications, met by the purchased material and equipment."

The licensee requests relief in the specific area of source evaluation. Section 17.2.7.1, "Supplier Qualification," of the licensee's quality assurance program description states that "safety-related items and services procured are obtained from either vendors included on the Qualified Suppliers List or other utilities holding an NRC nuclear plant license." Section 17.2.7.1 further states that "NRC licensed nuclear utilities are not included on the Qualified Supplier's List based on their possession of an NRC approved Appendix B quality assurance program. Therefore, audits, surveys, and periodic evaluations are not required."

The licensee's quality assurance program is already consistent with the proposed alternative in that safety-related items are procured from other nuclear utilities without the requirement for audits, surveys, and periodic evaluations. In addition, Code Case N-528 stipulates that the documentary evidence required by Criterion VII be transferred to the licensee with the material and subsequently maintained by the licensee.

In effect, the supplying plant fulfills the regulatory requirement for source evaluation by originally procuring the material and documentation in conformance with Section III of the Code and subsequently maintaining the material in accordance with its approved Appendix B quality assurance program.

Other regulatory procurement requirements continue to apply. The licensee is responsible for ensuring that the material is in conformance with all other Code requirements, applicable design requirements, its Appendix B program, and other regulatory requirements and commitments. The licensee is also responsible for ensuring that the item is suitable for the intended application and documenting this evaluation. The proposed alternative is acceptable on the basis that it provides an acceptable level of quality and safety.

4.0 CONCLUSIONS

The staff has evaluated the licensee's proposed use of Code Case N-528 and has determined that it provides an acceptable alternative to certain administrative requirements of Section III, when material is purchased, exchanged, or transferred between nuclear plant sites. The code case requires that the material was originally procured in compliance with ASME Code, Section III requirements, maintained in conformance with an approved Appendix B program, and not subject to any operation that might affect the mechanical properties of the material.

The licensee is responsible for ensuring that the received documentation is complete and in compliance with Code requirements, that the material meets the design requirements for the intended application, and that the material conforms to the licensee's Appendix B program and all other regulatory requirements and commitments.

These requirements provide reasonable assurance that the proposed alternative provides an acceptable level of quality and safety in accordance with paragraph 50.55a(a)(3)(i). Therefore, the alternative provided by Code Case N-528 is acceptable for the remainder of the licensee's third 10-year inspection interval.

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Date: March 20, 2000

Edwin I. Hatch Nuclear Plant

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