

Mr. Michael A. Krupa, Director  
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March 21, 2001

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 1; GRAND GULF NUCLEAR STATION;  
RIVER BEND STATION; WATERFORD STEAM ELECTRIC STATION, UNIT 3 -  
REQUEST TO USE ASME CODE CASE N-532 (TAC NOS. MA9557, MA9747,  
MA9626 AND MA9631)

Dear Mr. Krupa:

By letter dated July 13, 2000, as supplemented by letter dated February 16, 2001, Entergy Operations, Inc. (Entergy) requested relief from the requirements of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). In the July 13, 2000, letter, Entergy requested to use ASME Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000, Section XI, Division 1."

The Nuclear Regulatory Commission (NRC) staff has reviewed Entergy's request and concludes that Code Case N-532 will provide an acceptable level of quality and safety. Therefore, Entergy's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i). This authorization is valid until the end of the current inservice inspection interval applicable for each unit. The staff's safety evaluation is enclosed.

Sincerely,

*/RA/*

Robert A. Gramm, Chief, Section 1  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-313  
50-416  
50-458  
50-382

Enclosure: Safety Evaluation

cc: w/encl: See next page

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Enclosure: Safety Evaluation

cc: w/encl: See next page

Accession No. ML010800283 \*no substantive change from SE input \*\*See previous concurrence

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE CODE CASE N-532 (RELIEF REQUEST CEP-ISI-006, REV. 2)

ARKANSAS NUCLEAR ONE, UNIT 1; GRAND GULF NUCLEAR STATION;

RIVER BEND STATION; AND WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NOS. 50-313, 50-416, 50-458 AND 50-382

1.0 INTRODUCTION

By letter dated July 13, 2000, Entergy Operations, Inc. (Entergy, Entergy Operations, or the licensee) requested relief for Arkansas Nuclear One, Unit 1, Grand Gulf Nuclear Station, River Bend Station, and Waterford Steam Electric Station, Unit 3, from the requirements of Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). In the July 13, 2000, letter, Entergy requested the use of ASME Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000, Section XI, Division 1," as an alternative to the requirements related to the preparation and submission of the summary report as required by IWA-4000 and IWA-6000 of the ASME Section XI Code. Additionally, the licensee states that a similar request for relief was authorized by the Nuclear Regulatory Commission (NRC) for Class 1, 2, and 3 components on September 4, 1997, for the four units mentioned above. At that time, due to an oversight, ASME Class MC (metal containments) and Class CC (concrete containments) were not included in the list of affected components. This relief request seeks the authorization for the use of the Code Case for Class 1, 2, and 3, and Class MC and CC components.

This evaluation addresses the merits of the relief request in terms of quality and safety of the components included in the relief request.

2.0 EVALUATION

Code Requirements from which the Relief is requested (as stated by the licensee)

"IWA-6200 requires the preparation of Inservice Inspection (ISI) Summary Reports which contain completed Form NIS-1, "Owner's Report for Inservice Inspection" and Form NIS-2, "Owner's Report for Repair and Replacement". In accordance with IWA-6240, the ISI Summary Report is required to be submitted to the enforcement and regulatory authorities having jurisdiction at the plant within 90 days of the completion of the inservice inspections conducted each refueling outage.

IWA-4900 reiterates the requirement to complete NIS-2 forms for repairs and replacements."

Proposed Alternative (as stated by the licensee)

“Entergy will use Code Case N-532 in its entirety with the clarification stated above [below] regarding the provision in paragraph 2(c) of the Code Case for reporting corrective measures. Also, each OAR [Owner's Activity Report]-1 form prepared during an inspection period shall be submitted within twelve months following the end of the inspection period.”

Basis for the Use of Proposed Alternative (as stated by the licensee)

“Pursuant to 10CFR50.55a(a)(3)(i), an alternative is requested on the basis that it provides an acceptable level of quality and safety.

Code Case N-532 was approved by the ASME Boiler and Pressure Vessel Code Committee on December 12, 1994, but is not yet included in the most recent listing of NRC approved code cases provided in Revision 12 of Regulatory Guide 1.147, “Inservice Inspection Code Case Acceptability – ASME Section XI Division 1.”

Code Case N-532 provides an alternative to the current ASME Section XI repair and replacement documentation requirements, as well as regulatory reporting requirements relating to inservice inspection. This alternative will reduce the resources required to prepare NIS-2 forms and prepare and submit the ISI Summary Report currently required by the Code after each refueling outage. This is a significant reduction in the administrative burden required by ASME Section XI, IWA-6000.

By use of this code case, the following would be attached to an Owner's Activity Report Form OAR-1 upon completion of each refueling outage: 1) an abstract of all examinations and tests completed each refueling outage, 2) a listing of item(s) with flaws or relevant conditions that required evaluation to determine the acceptability for continued service, and 3) an abstract for repairs, replacements, and corrective measures performed due to an item containing a flaw or relevant condition that exceeded acceptance criteria. Each Form OAR-1 prepared during an inspection period would be available onsite for the NRC's review. All OAR-1 forms generated during an inspection period would be compiled [compiled] and subsequently submitted following the end of an inspection period.

This request to use Code Case N-532 includes the following clarification regarding reporting of “corrective measures”. ASME Section XI uses the term “corrective measures” in two different ways. One use of the term, as found in IWX-3000, involves maintenance activities that do not involve repairs or replacements. With this clarification, Entergy Operations proposes not to report corrective measures which only include routine maintenance activities such as tightening threaded fittings to eliminate leakage, torquing of fasteners to eliminate leakage at bolted connections, replacing valve packing due to unacceptable packing leakage, tightening loosened mechanical connections on supports, adjusting and realigning supports, cleaning up corrosion on components resulting from leakage, etc.

Including these routine maintenance activities in the Owner's Activity Report Form OAR-1 required by Code Case N-532 would be a significant expansion of current requirements without any corresponding increase in safety or quality. Corrective measures which refer to Code required activities, such as repairs and replacements, will be reported in compliance with Code Case N-532.

Entergy Operations considers the alternative documentation and reporting requirements of Code Case N-532 to be a reasonable alternative and an improvement to existing requirements. Because the use of this alternative only affects documentation and reporting requirements, Entergy Operations considers this alternative to provide an acceptable level of quality and safety.”

#### Staff Evaluation

As this Code Case is not endorsed by the NRC, this is a plant specific evaluation. If the NRC endorses this Code Case in the future, conditions attached to the endorsement (if any) will apply to the units during their subsequent ISI intervals.

Code Case N-532 applies to the users of the 1992 Edition of Section XI of the ASME Code. It provides alternatives to the requirements of:

- (1) IWA-4910(d) related to the preparation of Form NIS-2,
- (2) IWA-6210(c) and (d) related to preparation of Form NIS-1 for Class 1 and 2 pressure retaining components,
- (3) IWA-6210(e) for completion of Form NIS-2 following repair and replacement,
- (4) IWA-6220 related to the preparation of abstracts of examination required by Form NIS-1,
- (5) IWA-6230(b), (c), and (d) related to the preparation of summary reports, and
- (6) IWA-6240(b) related to the time period in which the summary report is to be submitted to regulatory and enforcement authorities.

The Code Case eliminates the Code requirements of filing Forms NIS-1 and NIS-2, and requires the Owners to prepare (1) Repair and Replacement (R/R) Certification Record in a new Form NIS-2A upon completion of the R/R activities, and (2) OAR Form OAR-1 upon completion of each refueling outage. Furthermore, the Code Case requires the Owners to submit each Form OAR-1 prepared during an inspection period.

Each Form OAR-1 consists of the following information: (1) an abstract of applicable examinations and tests with the information required in Table 1, (2) a listing of items with flaws or relevant conditions that require evaluation with the information in Table 2, and (3) an abstract for repairs, replacements, and corrective measures performed with the information in the format of Table 3. The forms and tables are part of the Code Case.

In the basis for relief, the licensee provides a clarification of paragraph 2(c) of the Code Case for reporting corrective measures. The licensee states: “...Entergy Operations proposes not to report corrective measures which only include routine maintenance activities such as tightening threaded fittings to eliminate leakage, torquing of fasteners to eliminate leakage at bolted connections, replacing valve packing due to unacceptable packing leakage, tightening loosened mechanical connections on supports, adjusting and realigning supports, cleaning up corrosion on components resulting from leakage, etc.”

The staff’s position is that the criteria provided in paragraph 2(c) of the Code Case is explicit regarding what items (including corrective measures) need to be provided in Table 3 of Form OAR-1. If the maintenance items performed do not fit into these criteria for the covered components, they need not be reported in Table 3. During a telephone conference with the

licensee, the licensee confirmed that the clarifications provided are for NRC's information, and they should not be construed as exceptions to the requirements of paragraph 2(c) of the Code Case. The staff has no objection to the use of these clarifications.

The staff believes that the status of R/R activities and a more detailed status of ISI examinations by inspection period and interval are an improvement over the reporting forms currently required by the 1992 Edition of the Code. For submission of Form OAR-1 to the regulatory agency, the Code Case is silent as to the period in which the Owner should submit these reports. However by supplemental letter dated February 16, 2001, the licensee committed to submit the report to the regulatory and enforcement authorities having jurisdiction over the plant site within one year upon completion of the inspection period. The staff considers this acceptable.

### 3.0 CONCLUSION

Based on the information provided in the relief request and recognition that a similar request was authorized by the NRC on September 4, 1997, for Class 1, 2, and 3 components, the staff finds that the use of ASME Section XI Code Case N-532 in lieu of the requirements of IWA-4000 and IWA-6000 of the ASME Section XI Code for repair and replacement documentation, and preparation of ISI summary report, will provide an acceptable level of quality and safety for the components covered by this Code Case. As the Code Case is silent about the time-period within which the summary report will be submitted to the enforcement and regulatory authorities, the licensee has committed to an acceptable time period within which it will submit the summary report. Therefore, the staff authorizes the proposed alternative, for Class 1, 2, and 3, and Class MC and Class CC components, pursuant to 10 CFR 50.55a(a)(3)(i). This authorization shall be valid until the end of the current ISI interval applicable for each unit.

Principal Contributor: H. Ashar

Date: March 21, 2001

Addressees for Letter Dated: March 21, 2001

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March 2001

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