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June 15, 2000

2CAN060008

U. S. Nuclear Regulatory Commission Document Control Desk Mail Station OP1-17 Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2 Docket No. 50-368 License No. NPF-6 Request for Use of ASME Code Cases N-508-1, N-532, and N-546

Gentlemen:

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Operations requests authorization to use three ASME Code Cases as alternatives to the requirements of ASME Section XI at Arkansas Nuclear One, Unit 2 (ANO-2). Specifically,:

- 1. Request for Alternative CEP-ISI-003, Rev. 0, requests authorization to use ASME Code Case N-508-1, "Rotation of Serviced Snubbers and Pressure Relief Valves for the Purpose of Testing," as an alternative to the applicable requirements of IWA-4000.
- Request for Alternative CEP-ISI-004, Rev. 0, requests authorization 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," as an alternative to the documentation and reporting requirements of IWA-4000 and IWA-6000.
- 3. Request for Alternative CEP-ISI-005, Rev. 0, requests authorization to use ASME Code Case N-546, "Alternative Requirements for Qualification of VT-2 Examination Personnel," as an alternative to the qualification requirements of nondestructive examination (NDE) personnel as stated in IWA-2300.

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U. S. NRC June 15, 2000 2CAN060008 Page 2

The NRC had previously authorized the use of these Code Cases for ANO-2 during its second interval which ended in March 2000, as well as for Entergy Operation's other nuclear facilities.<sup>1, 2, 3, 4, 5</sup>

Code Cases N-508-1, N-532, and N-546 are contained in the 1998 Edition of Nuclear Code Cases but have not been incorporated into Regulatory Guide (RG) 1.147, "Inservice Inspection Code Cases Acceptability – ASME Section XI Division 1." Entergy Operations requests these Code Cases be authorized for use in the ANO-2 Inservice Inspection (ISI) Plan until they are included in a future revision of RG 1.147.

Entergy Operations would like to use these Code Cases in the upcoming refueling outage at ANO-2, currently scheduled to begin in the autumn of 2000. Therefore, we request the NRC review and approve Requests for Alternative CEP-ISI-003, -004, and -005 on or before September 15, 2000.

Should you have any questions regarding this submittal, please contact me.

Very truly yours,

Jimpy D. Vandergrift Director, Nuclear Safety Assurance

JDV/jjd attachment

<sup>2</sup> Letter dated October 7, 1996, "Relief Request for Use of ASME Code Case N-508-1 for Grand Gulf Nuclear Station, Unit 1 (TAC No. M95813)"

<sup>3</sup> Letter dated December 22, 1995, "Arkansas Nuclear One, Units 1 and 2 – Alternative Requirements to Repair and Replacement Documentation Requirements: Code Case N-532 (TAC Nos. M93854 and M93855)"

<sup>4</sup> Letter dated September 14, 1997, "Relief Authorization for Use of ASME Code Cases N-416-1 & N-532 Inservice Inspection Program Plan for Arkansas Nuclear One – Unit 1, Grand Gulf Nuclear Station, Waterford 3 Steam Electric Station, and River Bend Station (TAC Nos. M99156, M99157, M99160, and M99258)"

<sup>5</sup> Letter dated November 19, 1997, "Use of ASME Code Cases N-509, N-524, and N-546 for Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, Unit 1, River Bend Station, and Waterford 3 Steam Electric Station (TAC Nos. M96099, M96100, M96101, M96102, M96103, M96104, M95815, M95816, M95829, M95830, M95832, M95874, M95875, and M95876)"

<sup>&</sup>lt;sup>1</sup> Letter dated July 30, 1997, "Relief Authorization for Use of Code Case N-508-1 for Arkansas Nuclear One, Units 1 and 2, River Bend Station, and Waterford 3 Steam Electric Station (TAC Nos. M96105, M96106, M95831, and M95873)"

U. S. NRC June 15, 2000 2CAN060008 Page 3

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U. S. Nuclear Regulatory Commission Region IV
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# REQUEST FOR ALTERNATIVE CEP-ISI-003, Rev. 0

Component/Number:	Snubbers and pressure relief valves
Code Class:	1, 2, 3
References:	ASME Section XI, Article IWA-4000 ASME Code Case N-508-1
Examination Category:	N/A
Item Number:	N/A
Description:	Use of ASME Code Case N-508-1
Unit/Current Inspection Interval:	ANO-2 – third (3 <sup>rd</sup> ) 10-year interval; 1992 Edition, 1993 Addenda

#### I. <u>Code Requirement(s)</u>

Article IWA-4000, <u>Repair and Replacement</u>, specifies the rules and requirements to be used when replacing, among other items, snubbers and pressure relief valves. The Owner is required to develop a repair/replacement program that meets the requirements of IWA-4140, "Repair/Replacement Program and Plan." When a component is replaced under this program, IWA-4000 requires the Owner to perform the following activities:

- Prepare a replacement plan and an accompanying Form NIS-2
- Perform specific ASME Section XI reviews and evaluations
- Obtain review and concurrence from an Authorized Nuclear Inspector

These requirements also apply when removing and installing snubbers and pressure relief valves solely for the purpose of testing.

# II. <u>Requested Authorization</u>

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Operations requests approval to use ASME Code Case N-508-1, "Rotation of Serviced Snubber and Pressure Relief Valves for the Purpose of Testing," as an alternative to ASME Section XI, Article IWA-4000 requirements at Arkansas Nuclear One – Unit 2 (ANO-2).

III. Proposed Alternative Examination

Entergy Operations proposes to use Code Case N-508-1 when a snubber or pressure relief valve is removed from a system for the purpose of testing.

Attachment to 2CAN060008 Page 2 of 10

If the component being removed shows evidence of failure, Entergy Operations will perform repair/replacement activities in accordance with IWA-4000. The use of Code Case N-508-1 only eliminates unnecessary administrative controls and documentation requirements associated with replacing a snubber or relief valve when the component is rotated for testing. All other aspects of the replacement (e.g., design, manufacture, and operating limits and settings) are still maintained.

#### IV. Basis for the Proposed Alternative Examination

Code Case N-508-1 is contained in the 1998 Edition of Nuclear Code Cases, but has not been included in Regulatory Guide 1.147, "Inservice Inspection Code Cases Acceptability – ASME Section XI Division 1."

Currently, when a snubber or pressure relief valve is removed for the purpose of testing, two options are available:

- 1) Maintain the system or portion of the system in a degraded condition, while complying with Technical Specifications, until the removed item is tested, and refurbished, if required, and then reinstalled; or
- 2) Rotate a "like" item into the removed item's place and test the removed item at a later time.

For those facilities with ample spares, option 2) is the typical method for minimizing the duration of systems being in a degraded condition.

Per the requirements of IWA-4000, when a snubber or pressure relief valve is removed for repair or replacement, the activity must be treated as follows:

- Use of Repair/Replacement Program, plans, suitable evaluations, unique reviews within the licensee's ASME Section XI programs
- Review and concurrence by an Authorized Nuclear Inspector
- Maintenance of NIS-2 or other Section XI documentation to record the replacement

This activity requires the degraded system to remain out of service for the time that the item is removed, tested, refurbished if necessary, and replaced. Entergy Operations considers these Code provisions appropriate when the components are replaced due to design changes, failures, or expiration of component life. However, these activities appear excessive for removing and installing snubbers and pressure relief valves solely for the purpose of testing. Attachment to 2CAN060008 Page 3 of 10

> Entergy Operation's repair/replacement program governs snubbers and pressure relief valves rotated for the purpose of testing. Code Case N-508-1 provides alternative rules that eliminate rotating snubbers and pressure relief valves, for testing purposes, from the scope of the repair/replacement program. These alternative rules minimize the time a degraded system remains out of service and reduce documentation, evaluations, and personnel review time that is typically associated with ASME Section XI repair/replacement work activities. The technical requirements for replacing, testing, and repairing snubbers and pressure relief valves are still maintained in a manner consistent with the level of safety afforded by complying to ASME Section XI requirements.

> The use of any Code Case is restricted to its complete use; selecting specific provisions within a Code Case is not an acceptable practice. Entergy Operations plans to implement item (a) of Code Case N-508-1 in a manner that ensures the items being removed and installed are comparable in their design, construction, and operating parameters to the extent that installation can be performed without requiring a plant design change or modification.

As stated in the Inquiry and Reply sections of Code Case N-508-1, the alternatives are only provided for IWA-4000 (IWA-7000 for Editions and Addenda prior to the 1991 Addenda). All other requirements of ASME Section XI apply, including any testing that may be performed as a result of Section XI. Code Case item (h) states that testing of removed snubbers and pressure relief valves, including required sample expansions, shall be performed in accordance with the Owner's test program. Using the Code Case has no affect on any requirements beyond ASME Section XI repair/replacement requirements. Commitments and programs in effect at ANO-2 for monitoring snubber service life are unaffected by the alternatives of Code Case N-508-1.

# V. Conclusion

The use of Code Case N-508-1 as an alternative to IWA-4000 for rotating snubbers and pressure relief valves for the purpose of testing would reduce the administrative requirements and documentation. All technical requirements (design, fabrication, installation, testing, etc.) are maintained in a manner that provides an acceptable level of safety consistent with the requirements currently implemented at ANO-2.

10CFR50.55a(a)(3) states:

"Proposed alternatives to the requirements of (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

Attachment to 2CAN060008 Page 4 of 10

- (i) The proposed alternatives would provide an acceptable level of quality and safety, or
- (ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

Entergy Operations believes the proposed alternative to use ASME Code Case N-508-1 at ANO-2 for rotation of serviced snubbers and pressure relief valves for the purpose of testing in lieu of ASME Section XI, Article IWA-4000 provides an acceptable level of quality and safety. Therefore, Entergy Operations requests the NRC authorize the proposed alternative in accordance with 10CFR50.55a(a)(3)(i).

Attachment to 2CAN060008 Page 5 of 10

# REQUEST FOR ALTERNATIVE CEP-ISI-004, Rev. 0

Component/Number:	Class 1, 2, 3, MC and CC components subject to ISI, repair or replacement
Code Class:	1, 2, 3, MC and CC
References:	ASME Section XI, IWA-4900 and IWA-6200 ASME Code Case N-532
Examination Category:	N/A
Item Number:	N/A
Description:	Use of ASME Code Case N-532
Unit/Current Inspection Interval:	ANO-2 – third (3 <sup>rd</sup> ) 10-year interval; 1992 Edition, 1993 Addenda

# I. <u>Code Requirement(s)</u>

IWA-6200 requires the Owner to prepare 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 or Replacement." IWA-6240 requires the Owner to submit the ISI Summary Report to the enforcement and regulatory authorities having jurisdiction at the facility within 90 days from completing the inspections conducted during each refueling outage.

IWA-4900 reiterates the requirement to complete NIS-2 forms for repair and replacement activities.

# II. <u>Requested Authorization</u>

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Operations requests approval to use ASME Code Case N-532 as an alternative to repair and replacement documentation and reporting requirements of ASME IWA-4000 and IWA-6000.

#### III. Proposed Alternative Examination

Entergy Operations proposes to use Code Case N-532 with the following clarification regarding the provision in paragraph 2(c) of the Code Case for reporting corrective measures.

ASME Section XI uses the term "corrective measures" in two different ways. One use of the term involves Code-required activities such as repairs and replacements. The other use, as found in IWX-3000, involves maintenance activities that do not involve repairs or replacements. With this clarification, Entergy Operations

# Attachment to 2CAN060008 Page 6 of 10

proposes not to report corrective measures that only involve routine maintenance activities. These activities include, but are not limited to, the following:

- Tightening threaded fittings to eliminate leakage
- Torquing 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

# IV. Basis for the Proposed Alternative Examination

Code Case N-532 is contained in the 1998 Edition of Nuclear Code Cases, but has not been included in Regulatory Guide 1.147, "Inservice Inspection Code Cases Acceptability – ASME Section XI Division 1."

By use of this Code Case, Entergy Operations personnel prepare an Owner's Activity Report Form OAR-1 upon completing each refueling outage. Included in the OAR-1 will be:

- 1. An abstract of all examinations and tests completed during the outage;
- 2. A listing of item(s) with flaws or relevant conditions that required evaluation to determine 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 will be available onsite for the NRC's review. All OAR-1 forms generated during an inspection period will be compiled and subsequently submitted following the end of each inspection period.

This alternative only affects documentation and reporting requirements specified in the Code. The proposed alternative will reduce the resources required to prepare NIS-2 forms and prepare and submit the ISI Summary Report after each refueling outage, as currently required by the Code. As discussed in the proposed alternative examination section above, Entergy Operations will not report corrective measures that only involve routine maintenance activities. Including Attachment to 2CAN060008 Page 7 of 10

these activities in the OAR-1 form required by Code Case N-532 would reflect a significant expansion of current requirements without a corresponding increase in safety or quality. Corrective measures that refer to Code-required activities, such are repairs and replacements, will be reported in compliance with Code Case N-532.

V. Conclusion

10CFR50.55a(a)(3) states:

"Proposed alternatives to the requirements of (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

- (i) The proposed alternatives would provide an acceptable level of quality and safety, or
- (ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

Entergy Operations believes the proposed alternative to use ASME Code Case N-532 with the clarification as discussed above in lieu of the documentation and reporting requirements of ASME Section XI, Articles IWA-4000 and IWA-6000 provides an acceptable level of quality and safety. Therefore, Entergy Operations requests the NRC authorize the proposed alternative in accordance with 10CFR50.55a(a)(3)(i).

Attachment to 2CAN060008 Page 8 of 10

# REQUEST FOR ALTERNATIVE CEP-ISI-005, Rev. 0

Component/Number:	Class 1, 2, and 3 components subject to VT-2 visual examinations
Code Class:	1, 2, and 3
References:	ASME Section XI, IWA-2300 ASME Code Case N-546
Examination Category:	N/A
Item Number:	N/A
Description:	Use of ASME Code Case N-546
Unit/Current Inspection Interval:	ANO-2 – third (3 <sup>rd</sup> ) 10-year interval; 1992 Edition, 1993 Addenda

# I. <u>Code Requirement(s)</u>

IWA-2300 requires personnel performing VT-2 visual examinations to be qualified in accordance with comparable levels of competency as defined in ANSI N45.2.6.

# II. <u>Requested Authorization</u>

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Operations requests approval to use ASME Code Case N-546, "Alternative Requirements for Qualification of VT-2 Examination Personnel" as an alternative to the requirements of ASME IWA-2300 for VT-2 visual examination personnel.

# III. Proposed Alternative Examination

Entergy Operations proposes to use the alternative requirements of Code Case N-546 in lieu of the requirements of IWA-2300 for qualification of VT-2 visual examination personnel. Entergy Operation's current ISI program contains the following controls pertaining to VT-2 examinations:

- Procedural guidelines for obtaining consistent, quality VT-2 visual examinations, in accordance with IWA-2210;
- Requirements to document and maintain records to verify qualifications of persons selected to perform VT-2 visual examinations, in accordance with IWA-1400(k); and

Attachment to 2CAN060008 Page 9 of 10

• Requirements to perform an independent review and evaluation of leakage by persons other than those that performed the VT-2 visual examinations, in accordance with IWA-1400(n).

#### IV. Basis for the Proposed Alternative Examination

Code Case N-546 is contained in the 1998 Edition of Nuclear Code Cases, but has not been included in Regulatory Guide 1.147, "Inservice Inspection Code Cases Acceptability – ASME Section XI Division 1."

ASME Section XI requires personnel who perform VT-2 examinations to be qualified in accordance with comparable levels of competency as defined in ANSI N45.2.6. Additionally, examination personnel must have natural or corrected neardistance vision acuity in at least one eye equivalent to a Snell fraction of 20/20 or a Jaeger Number 1 on a standard Jaeger test. Also, examining personnel must demonstrate a far-distance acuity that is equivalent to the near-distance requirement at 15 feet or a Snell fraction of 20/30 at 20 feet.

Code Case N-546 permits experienced personnel [such as licensed and nonlicensed operators, local leak rate personnel, system engineers, and inspection and nondestructive examination (NDE) personnel] to perform VT-2 visual inspections without having to be certified to comparable levels of ANSI N45.2.6. However, the Code Case does require personnel performing VT-2 inspections to have:

- 1) At least 40 hours plant walkdown experience such as that gained by licensed and non-licensed operators, local leak rate personnel, system engineers, and inspection and NDE personnel.
- 2) At least four (4) hours of training on ASME Section XI requirements and plant-specific procedures for VT-2 visual examinations.
- 3) Vision test requirements of IWA-2321, 1995 Edition of ASME Section XI.

The qualification requirements in Code Case N-546 are not significantly different from the qualifications required for VT-2 visual examiner certification. Licensed and non-licensed operators, local leak rate engineers, system engineers, and inspection and NDE personnel typically have a sound working knowledge of plant components and piping layouts. This knowledge makes them acceptable candidates for performing VT-2 examinations. Therefore, this alternative provides a level of safety and quality consistent with the current ASME Section XI requirements. Attachment to 2CAN060008 Page 10 of 10

V. <u>Conclusion</u>

10CFR50.55a(a)(3) states:

"Proposed alternatives to the requirements of (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

- (i) The proposed alternatives would provide an acceptable level of quality and safety, or
- (ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

Entergy Operations believes this alternative provides a level of safety and quality consistent with the Code requirements. Therefore, Entergy Operations requests the NRC authorize the proposed alternative in accordance with 10CFR50.55a(a)(3)(i).