

August 16, 2002

Mr. Michael R. Kansler
Senior Vice President and
Chief Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF
REQUESTS FOR THE THIRD 10-YEAR INSERVICE INSPECTION INTERVAL
PROGRAM, INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
(TAC NO. MB4766)

Dear Mr. Kansler:

In a letter dated April 3, 2002, Entergy Nuclear Operations, Inc. (ENO or the licensee) submitted revised requests for relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, for Indian Point Nuclear Generating Unit 3 (IP3). The requests for relief were originally submitted by the New York Power Authority (the former licensee) on July 18, 2000, as part of the third 10-year inservice inspection (ISI) interval program. On the basis of questions from the U.S. Nuclear Regulatory Commission (NRC) staff in a letter dated February 13, 2001, the licensee withdrew the original ISI relief requests on March 20, 2001.

The NRC staff is reviewing the information provided in the April 3 submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). During a telephone call with the NRC staff on August 12, 2002, the ENO staff indicated that a response to the RAI would be provided within 60 days.

If you should have any questions, please do not hesitate to call me.

Sincerely,

/RA/

Patrick D. Milano, Sr. Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure: RAI

cc w/encl: See next page

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Indian Point Nuclear Generating Unit No. 3

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Indian Point Nuclear Generating Unit No. 3

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Request for Additional Information

Regarding Relief Requests

Third 10-Year Inservice Inspection Interval Program

Indian Point Nuclear Generating Unit No. 3 (IP3)

In a letter dated April 3, 2002, Entergy Nuclear Operations, Inc. (the licensee) submitted Relief Request Nos. 3-13, 3-14, 3-16, and 3-17 from the inservice inspection requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, for IP3. The U.S. Nuclear Regulatory Commission (NRC) staff has the following questions regarding the information provided in the proposed relief requests:

1. Request for Relief 3-12, Rev. 1, Examination Category B-A, Pressure Retaining Welds in Reactor Vessel

Licensees are required to qualify, through performance demonstration, ultrasonic examination procedures, personnel, and equipment in accordance with the 1995 Edition, through the 1996 Addenda, of ASME Section XI, Appendix VIII. Provisions of 10 CFR 50.55a(b)(2)(xv) may be used to modify implementation of Appendix VIII. The licensee requested to use the industry Performance Demonstration Initiative (PDI) procedure PDI-UT-6 for reactor vessel head welds for thicknesses greater than the currently qualified procedure thickness. The licensee stated that this procedure has only been qualified for thicknesses up to 7.64 inches.

The supplements contained in Appendix VIII were developed with essential variables required to ensure the reliability of examinations. One of the essential variables is the weld or component thickness for which that supplement may be applied. Supplement 6, "Qualification Requirements for Reactor Vessel Welds Other Than Clad/Base Metal Interface," requires that at least one performance demonstration specimen be at least 90% of the maximum thickness to be examined. Article VIII-3000 allows for changes in essential variables through subsequent performance demonstrations.

- A. Provide the revision of PDI-UT-6 planned for use during reactor vessel head weld examinations at IP3.
- B. Provide a technical justification for extending the thickness of the performance demonstration qualification. As a minimum, this should include the results of simulation or modeling that justify extending the range of the procedure, and show that the search units used will provide adequate coverage and signal responses for the inspection ranges required at IP3. Include a brief description of the mock-ups, and types and locations of flaws used during the performance demonstration qualification of PDI-UT-6.
- C. Under Paragraph D of RR 3-12, the licensee stated that, "While not part of this relief, Entergy plans to perform the inspection of the Head-to-Flange Weld (B1.40, Weld #1 on INT-1-1300) using the PDI method [presumably PDI-UT-6] in

Enclosure

lieu of the Section XI examination as well. The PDI method will be used in accordance with Section IWA-2240 of Section XI for alternative examination methods.”

However, Appendix I, Article I-2000, Paragraph I-2110, excludes using techniques qualified under Appendix VIII for shell-to-flange or head-to-flange welds. Paragraph IWA-2240 is not intended to be used for changes in volumetric coverages, beam directions or angles, etc. associated with existing method variables set forth in ASME V, Article 4. The use of a single 60° refracted longitudinal probe does not comply with Article 4. Therefore, an alternative, pursuant to 10 CFR 50.55a(a)(3)(i), should be submitted if the licensee intends to deviate from Article 4 requirements.

2. Request for Relief 3-14, Rev. 1, Examination Category B-B, Pressure Retaining Welds in Vessels Other than the Reactor Pressure Vessel

The licensee requested relief, pursuant to 10 CFR 50.55a(a)(3)(ii), from performing 100% examinations of pressurizer upper and lower head circumferential welds and adjoining longitudinal welds. 10 CFR 50.55a(a)(3)(ii) requires licensees proposing alternatives to Code requirements to demonstrate that compliance with the specified requirement (in this case pressurizer vessel weld volumetric examinations) would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety. However, the licensee presented drawings and past interval inspection reports showing limitations to accessing these welds for volumetric examination. The licensee should resubmit this request, based on the impracticality of performing the examinations due to accessibility limitations, in accordance with 10 CFR 50.55a(g)(5)(iii).

In addition, it appears that, for pressurizer bottom head Weld Number 1, greater than 90% volumetric examination is being obtained. Is the licensee using NRC-approved Code Case N-460? If so, no relief for Weld Number 1 is required. For Weld Number 2, confirm whether the insulation in place is permanently installed and whether the “access window” can be adjusted to allow inspection of the circumferential-to-longitudinal intersection of Welds 1 and 2. For Weld Numbers 16 and 17, confirm that no access is available for volumetric examination.

3. Request for Relief 3-16, Rev. 1, Examination Category B-D, Full Penetration Welded Nozzles in Vessels

The licensee has requested relief from performing volumetric examination of pressurizer top head nozzles (spray, safety, relief) inner radius sections. The nozzles are integrally cast into the head, so no nozzle-to-head weld exists. The licensee referenced 10 CFR 50.55a(a)(3)(i), in that the proposed alternative would provide an acceptable level of quality and safety, but made a case for impracticality, based on surface conditions and other metallurgical/geometrical considerations. The licensee should resubmit this request, pursuant to 10 CFR 50.55a(g)(5)(iii), based on the impracticality of performing the examinations due to the nozzle design.

Discuss whether the licensee considered using available new technology for examining the inner radii of these nozzles. It may now be possible to use phased array technology to steer and focus the sound energy into the Code-required volume, with minimal

scanning on the surface of the component. This could potentially save man-rem exposure and allow the nozzle examinations to be spread out over the interval, as required by Code.

4. Request for Relief 3-17, Rev. 2, Repairs of Class 3 Moderate Energy Service Water Piping

During a telephone call with licensee representatives on August 12, 2002, the licensee informed the NRC staff that it would be withdrawing this relief request.