

**From:** [Guzman, Richard](#)  
**To:** [Mackaman, Clyde D](#)  
**Cc:** [Walpole, Robert W](#); [Mirzai, Mahvash](#); [Danna, James](#)  
**Subject:** Indian Point, Unit 3 - Request for Additional Information - Relief Request IP3-ISI-RR-11 (EPID: L-2017-LLR-0127)  
**Date:** Monday, June 04, 2018 1:40:49 PM

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Clyde,

On May 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) staff sent Entergy Nuclear Operations, Inc. (Entergy or the licensee) the subject Request for Additional Information (RAI) as a draft (via e-mail shown below). This RAI relates to Relief Request IP3-ISI-RR-11, proposing alternatives to the inservice inspection (ISI) interval requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Paragraph IWB-2500 and Table IWB-2500-1 for Indian Point Nuclear Generating Unit No. 3.

On June 4, 2018, the NRC staff conducted a conference call with the licensee staff to clarify the request. Following the discussion, you indicated that Entergy will provide a response to this RAI within 45 days of the issuance of the RAI. Updated below is the official (final) RAI. A publicly available version of this e-mail and RAI will be placed in the NRC's ADAMS system. Please contact me should you have any questions in regard to this request.

Thanks,

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Rich Guzman  
Sr. PM, Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Office: O-9C07 | Phone: 301-415-1030

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**From:** Guzman, Richard  
**Sent:** Thursday, May 31, 2018 3:04 PM  
**To:** 'Mirzai, Mahvash' <mmirzai@entergy.com>  
**Cc:** 'Walpole, Robert W' <rwalpol@entergy.com>  
**Subject:** Indian Point, Unit 3 - DRAFT Request for Additional Information - Relief Request IP3-ISI-RR-11 (EPID: L-2017-LLR-0127)

Mahvash,

By letter dated October 18, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17297A461), Entergy Nuclear Operations, Inc. (Entergy, the licensee), submitted Relief Request IP3-ISI-RR-11, proposing alternatives to the inservice inspection (ISI) interval requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Paragraph IWB-2500 and Table IWB-2500-1 for Indian Point Nuclear Generating Unit No. 3 (IP3).

This Request for Additional Information (RAI) is identified as draft at this time to confirm your understanding of the information that the NRC staff needs to complete the evaluation.

Please contact me if you would like to set up a conference call to clarify this request for information.

Thanks,

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Rich Guzman  
Sr. PM, Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
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REQUEST FOR ADDITIONAL INFORMATION

RELIEF REQUEST NO. IP3-ISI-RR-11

FOURTH 10-YEAR INTERVAL INSERVICE INSPECTIONS

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

EPID: L-2017-LLR-0127

By letter dated October 18, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17297A461), Entergy Nuclear Operations, Inc. (Entergy, the licensee), submitted Request for Relief No. IP3-ISI-RR-11 which proposed alternatives to the inservice inspection (ISI) interval requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Paragraph IWB-2500 and Table IWB-2500-1 for Indian Point Nuclear Generating Unit No. 3 (IP3). The ASME Code requires volumetric examination once each 10-year interval of essentially 100 percent of reactor vessel pressure-retaining welds identified in Table IWB-2500-1, Examination Categories B-A, "Pressure Retaining Welds in Reactor Vessel," B-D, "Full Penetration Welded Nozzles in Vessels," B-N-2, "Welded Core Support Structures and Interior Attachments to Reactor Vessels," and B-N-3, "Removable Core Support Structures." By letter dated July 23, 2014 (ADAMS Accession No. ML14198A331), NRC staff approved a licensee request to extend the inspection interval for Examination Category B-A and B-D welds at IP3 to 20 years.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50.55a(z)(1), the licensee requested the use of the proposed alternatives to extend certain required examinations of the IP3 reactor vessel welds for the fourth ISI inspection intervals, on the basis that the alternatives provide an acceptable level of quality and safety. Specifically, the licensee requested to extend the required examinations for Examination Category B-A and B-D welds from 20 years to 22 years. The licensee also requested to extend the required examinations for Examination Category B-N-2 and B-N-3 welds from 10 years to 12 years. The current fourth 10-year ISI interval for IP3 is scheduled to end on July 20,

2020. The licensee's proposed alternative would allow for the deferral of the subject examinations for 2 years, no later than April 30, 2021.

In its October 18, 2017 submittal, the licensee stated that prior relief request IP3-ISI-RR-06 (ADAMS Accession No. ML14017A055), which was approved by the NRC staff by safety evaluation (SE) dated July 23, 2014 (ADAMS Accession No. ML14198A331) and which extended the inspection interval for Examination Category B-A and B-D welds at IP3 to 20 years, demonstrated the following:

- The licensee "provided sufficient information as requested in Sections 3.4 and 4.0 of the SER for WCAP-16168-NP-A" (see ADAMS Accession No. ML111600303).
- The licensee "provided a plant-specific change in TWCF [through-wall cracking frequency] analysis to demonstrate that the proposed change in the IP3 Reactor Pressure Vessel (RPV) ISI program meets the Regulatory Guide 1.174 guidelines discussed in the SER for WCAP-16168-NP-A" (see ADAMS Accession No. ML111600303).
- The "plant specific change-in-risk analysis adequately bounds the requested 22 year extension to the Spring of 2021 since the proposed inspection deferral remains within 48 EFPY [effective full power years] and 60 calendar years".

The following requests for additional information (RAIs) outline the information needed for the NRC staff to complete its review:

#### **RAI-1**

In its 2014 SE which extended the inspection interval of Examination Category B-A and B-D welds to 20 years, the NRC staff stated that the licensee has, in essence, satisfactorily addressed Plant Specific Information Item 1 from WCAP-A through an approved plant-specific TWCF analysis, and that the embrittlement of the IP3 RPV was addressed appropriately in this analysis. The 2014 SE notes that the licensee's original TWCF calculation was not bounded by WCAP-A, but that the licensee provided a plant-specific TWCF analysis based on 48 EFPY which bounds the neutron fluence up to 20 years following the original license period.

NRC staff requests that the licensee (1) evaluate plant operating experience (including the occurrence of the limiting fatigue transients) since the submission of the last alternative proposal and (2) confirm (or correct as appropriate) that the previous TWCF calculations remain valid and that the plant will not reach 48 EFPY until after the time period under consideration for this request.

#### **RAI-2**

In its October 18, 2017 submittal, the licensee requests to defer the required visual examinations of Category B-N-2 and B-N-3 components to allow the inspection to be scheduled coincident with the ASME Code Case N-770-2 weld inspection and to eliminate the need to remove the core barrel in refueling outage 20 (Spring 2019). However, other than a desire to keep the personnel radiation dose as low as reasonably achievable, no technical justification was provided to support the approval of this alternative under 10 CFR

50.55a(z)(1) which applies to alternatives which provide an acceptable level of quality and safety.

NRC staff requests that the licensee submit technical justification that the request to extend the inspection interval of Category B-N-2 and B-N-3 components from 10 to 12 years will provide an acceptable level of quality and safety. Alternately, the licensee may revise the request for Category B-N-2 and B-N-3 components to demonstrate that compliance the current ASME inspection interval requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety as permitted by 10 CFR 50.55a(z)(2).