



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 18, 2017

Mr. Thomas Gurdziel  
9 Twin Orchard Drive  
Oswego, NY 13126

Dear Mr. Gurdziel:

This letter is in response to your petition by e-mail dated June 11, 2017,<sup>1</sup> addressed to the Chairman of the U.S. Nuclear Regulatory Commission (NRC) regarding the reactor vessel head O-rings at Indian Point Nuclear Generating Unit No. 3 (Indian Point 3). Your petition was referred to the Office of Nuclear Reactor Regulation (NRR) for review in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.206, "Requests for action under this subpart." The process for reviewing 2.206 petitions is contained in NRC Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions."<sup>2</sup>

Your petition concerned the O-ring leakage from the reactor vessel head at Indian Point 3. In your petition, you requested the NRC keep Indian Point 3 in cold shutdown until the condition of the reactor vessel head upper and lower surface, including the "O-ring grooves, be proved to be identical to the as purchased condition."

As the basis for this request, your petition stated that Indian Point 3 is unsafe to return the plant to operation with just the installation of new reactor vessel head O-rings. Your petition also questioned Entergy Nuclear Operations, Inc. (Entergy or the licensee) maintenance practices and the repetitive nature of the leakage condition, stating that Indian Point 3 operated 5½ months before having to shut down to repair the reactor vessel head O-rings, while in the latest occurrence, Indian Point 3 operated less than 1 month before the subsequent repair.

The NRC considered your requested enforcement action as a short-term, immediate action request given that Indian Point 3 was in the process of restarting from its maintenance outage. On June 22, 2017, your request for immediate action was reviewed by members of the Petition Review Board (PRB) and advisors, which included staff from the NRR, Office of the General Counsel, Region I office, and resident inspectors at Indian Point. After review and discussion, the PRB determined that there were no immediate safety concerns which would adversely impact the public's health and safety; therefore, the PRB denied your request for immediate action to halt the restart of Indian Point 3. In an e-mail dated June 22, 2017,<sup>3</sup> the petition manager informed you of this decision, described the 10 CFR 2.206 process, and offered you an opportunity to address the PRB by meeting or teleconference prior to making its initial recommendation. You declined the opportunity to address the PRB in a follow-on telephone call with the petition manager on June 22, 2017.

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML16088A374 and ML17163A254

<sup>2</sup> ADAMS Accession No. ML041770328

<sup>3</sup> ADAMS Accession No. ML17174A000

In an e-mail to the NRC dated June 24, 2017,<sup>4</sup> you expressed concern with the Entergy/Indian Point 3 reactor vessel upper head leak, indicating not only in that it occurred following the completion of consecutive refueling outages, but “because it makes clear that the level of skill, knowledge, communication, supervision/management, and initiative in the industry today, (after Fukushima), is not sufficient.”

In a subsequent e-mail to the NRC on June 28, 2017,<sup>5</sup> you requested the PRB consider as an example of Entergy’s level of maintenance, the cited Event No. 52829, which was a 10 CFR 50.72 report submitted by Entergy providing notification to the NRC that Indian Point Unit 2 was manually shut down on June 26, 2017, due to a loss of one of the main boiler feed pumps.

The PRB met on July 25, 2017, and reviewed your petition in accordance with NRC MD 8.11, which specifies the criteria used to determine whether to accept or reject 2.206 petitions for review. In making its recommendation, the PRB considered the information provided in your petition and the supplemental information provided in your June 24, 2017, and June 28, 2017 e-mails. The PRB’s initial recommendation was that your request does not meet the criteria for review under 10 CFR 2.206 because the issues identified in your petition have been previously reviewed and evaluated, for which a resolution had been achieved. On August 1, 2017, the petition manager contacted you by telephone to inform you of the PRB’s initial recommendation and to offer you the opportunity to address the PRB in light of its recommendation. During that conversation, you indicated that you did not desire to address the PRB or provide any additional information supporting your request.

The PRB’s final determination is to not accept your petition for review under the 10 CFR 2.206 process because your petition meets the criteria for rejection in accordance with NRC MD 8.11, Part III, C.2.

During plant life, the joint and valve interfaces can produce varying amounts of reactor coolant leakage, through either normal operational wear or mechanical deterioration. The purpose of the RCS operational leakage TS limiting condition for operation is to limit system operation in the presence of leakage from these sources to amounts that do not compromise safety. While no pressure boundary leakage is allowed in TSs, leakage past seals and gaskets, such as the reactor vessel head O-ring, is acceptable to a specified limit because this type of minor leakage does not jeopardize reasonable assurance of adequate protection.

The PRB noted that Indian Point 3 remains in compliance with the plant technical specification (TS) requirements for leakage and leak detection monitoring, which includes O-ring leakage from the reactor vessel head. Specifically, the Indian Point 3 reactor coolant system (RCS) operational leakage limits are specified in Section 3.4.13, “RCS Operational Leakage,” of the Indian Point 3 TSs. An early warning of unidentified leakage is provided by the automatic systems that monitor the containment atmosphere radioactivity and the containment sump level. The leakage detection system requirements are specified in TS Section 3.4.15, “RCS Leakage Detection Instrumentation.” These TS requirements dictate the required actions for monitoring unidentified leakage into containment and ensure that the licensee shuts down the plant with adequate margin to safety once specified limits are reached.

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<sup>4</sup> ADAMS Accession No. ML17204A883

<sup>5</sup> ADAMS Accession No. ML17204A884

The PRB also considered the operating experience at Indian Point 3 when making its recommendation. Specifically, the licensee historically has identified O-ring leakage at a very low level and has taken prudent, conservative action to shut down the plant to make the appropriate repairs. The recent O-ring leakage identified in your petition, was well below the TS limit, and on June 12, 2017, the operators shut down the reactor to replace the reactor vessel head O-rings. Operators returned Indian Point 3 to approximately 100 percent power on June 23, 2017, and Indian Point 3 has remained at or near 100 percent power to date. Since resuming operations, the unidentified leakage at Indian Point 3 has remained well within the limits specified by the TSs.

Additionally, the NRC conducted an inspection of the Indian Point 3 planned outage to replace the O-rings on the reactor vessel flange from June 12, 2017 to June 22, 2017. Prior to the outage, the NRC inspectors reviewed the outage work schedule and outage risk assessment to verify that risk, industry operating experience, previous site-specific problems, and defense-in-depth were considered. The NRC inspectors observed portions of the shutdown and startup to verify the unit was operating in accordance with established procedures and the TSs. During the outage, the NRC resident inspectors reviewed various maintenance activities and verified that Entergy complied with the TSs. O-ring replacement is one of any number of corrective actions that may take place, should the licensee have to shut down the plant. The NRC inspectors routinely monitor the licensee's performance, including management of its corrective action program. The NRC inspectors did not identify any performance issues associated with actions of the licensee personnel during the maintenance outage. The integrated inspection report was issued August 7, 2017, with no findings of significance.<sup>6</sup>

While the NRC recognizes that Indian Point has had O-ring leakage occurrences in the past, the NRC does not have an immediate safety concern with the current condition at Indian Point 3. Also, as discussed above, the licensee is meeting the applicable NRC requirements with respect to RCS plant leakage and taking appropriate steps in their corrective action program, when needed. The PRB did not identify a safety concern that would warrant a forced shutdown or the enforcement action requested in your petition request.

The NRC continues to monitor plant RCS leakage at Indian Point and will ensure that Entergy continues to meet the NRC applicable requirements for RCS operational leakage and leak detection. The PRB determined that the TS governing RCS leakage, combined with inspections, are existing processes through which the NRC continually reviews and evaluates the O-ring leakage from the reactor vessel head at Indian Point 3.

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<sup>6</sup> Indian Point Nuclear Generating – Integrated Inspection Report 05000247/2017002 AND 05000286/2017002, ADAMS Accession No. ML17220A074

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Therefore, the PRB has concluded that your petition meets the criteria for rejection in accordance with MD 8.11, Part III, C.2.

This letter closes all NRC actions associated with your 2.206 petition. If you have any questions, please feel free to contact Richard Guzman at (301) 415-1030 or by e-mail at [Richard.Guzman@nrc.gov](mailto:Richard.Guzman@nrc.gov).

Sincerely,

A handwritten signature in black ink that reads "Shana R. Helton". The signature is written in a cursive style with a large initial 'S'.

Shana R. Helton, Deputy Director  
Division of Safety Systems  
Office of Nuclear Reactor Regulation

Docket No. 50-286

cc: Mr. Anthony J. Vitale (w/copy of petition)  
Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
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P.O. Box 249  
Buchanan, NY 10511-0249

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**SUBJECT:     RESPONSE/CLOSURE LETTER TO MR. THOMAS GURDZIEL  
                   RE:  10 CFR 2.206 PETITION REGARDING THE REACTOR VESSEL  
                   HEAD O-RINGS AT INDIAN POINT NUCLEAR GENERATING UNIT NO. 3  
                   DATED SEPTEMBER 18, 2017**

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**ADAMS Accession Nos.:**  
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\*by e-mail

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