

April 14, 2008

Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE REVIEW OF  
THE LICENSE RENEWAL APPLICATION FOR INDIAN POINT NUCLEAR  
GENERATING UNIT NOS. 2 AND 3 (TAC NOS. MD5411 AND MD5412)

Dear Sir or Madam:

By letters to Entergy Nuclear Operation, Inc. (Entergy), dated December 5 and 7, 2008, the U.S. Nuclear Regulatory Commission (NRC or staff) requested that additional information be provided in order for the staff to complete its review of the license renewal application (LRA) for Indian Point Nuclear Generating Unit Nos. 2 and 3. By letters dated January 4, 10, 30, and February 5, 20, and March 7, 2008, Entergy provided responses to the staff's requests for additional information (RAIs). Upon review of your responses, the staff has identified areas where additional information is needed in order to complete its review.

Enclosed is the staff's RAI regarding refurbishment. As discussed with Mr. Mike Stroud of your staff, we request that you provide your responses to these questions no later than 30 days after the issuance of this letter, in order to facilitate an expeditious review. If you have any questions, please contact me at (301) 415-8450 or at [BMP@nrc.gov](mailto:BMP@nrc.gov).

Sincerely,

**\RA\**

Bo M. Pham, Senior Project Manager  
Projects Branch 2  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosure:  
As stated

cc w/enclosure: See next page

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Office of Nuclear Reactor Regulation

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ADAMS Accession No. **ML080940408**

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Letter to Entergy From B. Pham dated: April 14, 2008

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GENERATING UNIT NOS. 2 AND 3 (TAC NOS. MD5411 AND MD5412)

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Indian Point Nuclear Generating  
Units 2 and 3

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**Request for Additional Information (RAI)  
Regarding Refurbishment for Indian Point Nuclear Generating Unit Nos. 2 And 3**

The staff received scoping comments during its review of the License Renewal Application (LRA) for Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3) indicating that Entergy had taken steps toward procuring replacement reactor vessel heads for IP2 and IP3 (ADAMS accession nos. ML071990093 and ML073100985). The scoping comments contained excerpts from a presentation by Doosan Heavy Industries indicating that Doosan plans to deliver replacement reactor vessel heads and control rod drive mechanisms (CRDMs) for IP2 and IP3 in October of 2011 and 2012, respectively. Based on this information, the staff requested, by letter to Entergy dated December 5, 2007, additional information regarding refurbishment.

Entergy's response, dated January 4, 2008, indicated that "no reactor vessel head replacements are required for purposes of aging management during the period of extended operation. Accordingly, no evaluation of the environmental impacts of reactor vessel head replacement as a refurbishment activity is required or presented in the Environmental Report." Further, Entergy also noted that "the decision to proceed with procurement of long lead items [replacement vessel heads] is strictly economic," and therefore need not be addressed in Entergy's Environmental Report.

During a telephone conference call on March 18, 2008 (ADAMS accession number forthcoming), the staff acknowledged that while there may be no requirement to replace the reactor vessel heads at IP2 and IP3 for license renewal, Section 2.6.1 of the Generic Environmental Impact Statement for License Renewal (GEIS) discusses environmental impact-initiating actions associated with license renewal. These actions include: (1) refurbishment, repair, or replacement activities that "may be performed to ensure that this objective [aging management and maintaining functionality of certain SSCs] is achieved," and (2) activities that the licensee may choose to undertake, including "various refurbishment and upgrade activities at their nuclear facilities to better maintain or improve reliability, performance, and economics of power plant operation during the extended period of operation." Since the GEIS considers refurbishment activities beyond those that are related to aging management during the period of extended operation, Entergy's response to the staff's RAI related to refurbishment did not effectively address the scoping comment regarding this potential refurbishment activity.

During the conference call, Entergy indicated that, if license renewal were not being pursued for IP2 and IP3, the vessel head forgings would not have been ordered. Entergy also indicated that the vessel head forgings that were procured for IP2 and IP3 may never be needed, and a decision by Entergy to replace reactor vessel heads for IP2 and/or IP3 has not been made.

**Question 1:**

In order for the NRC staff to better understand the specific nature of the steps taken by Entergy with respect to its plans for reactor vessel head and CRDM replacement, please identify the factors that Entergy may consider in deciding whether to replace these components. Please describe how those factors affect Entergy's decision whether to replace the vessel heads and CRDMs.

ENCLOSURE

**Question 2:**

The staff recognizes that there is no certainty with respect to reactor vessel head and/or CRDM replacement at IP2 and/or IP3. Therefore, Entergy's response to Question 1 above will be duly considered by the staff in determining whether to address the potential environmental impacts of these actions in the upcoming draft Supplemental Environmental Impact Statement.

Nevertheless, based on the information presented in the scoping comment and the conference call discussion with Entergy staff on March 18, 2008, the NRC staff may proceed with a review of the impacts associated with reactor vessel head and CRDM replacement in accordance with 10 CFR 51.71. To facilitate the staff's review and understanding of these impacts, please provide additional information and supporting analysis regarding the Category 1 and Category 2 impacts (as listed in 10 CFR 51 Subpart A, Appendix B, Table B-1) that would be associated with reactor vessel head and CRDM replacement (all issues are listed in Table B-1 and included in Chapter 3 of the GEIS). If Entergy is unable to provide information specifically addressing the likely impacts of replacing vessel heads and CRDMs at IP2 and IP3, please provide impact estimates based on Entergy's experience at other plants. If Entergy-specific information is not available, please provide estimates based on industry experience in replacing these components.