



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

May 4, 2010

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

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3 - REQUEST
FOR ADDITIONAL INFORMATION REGARDING AMENDMENT APPLICATION
FOR DIESEL GENERATOR AIR START RECEIVER PRESSURES
(TAC NOS. ME2734 AND ME2735)

Dear Sir or Madam:

On November 17, 2009, Entergy Nuclear Operations, Inc. (Entergy), submitted an application for a proposed amendment for Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3) which would revise the pressure limits in the Technical Specifications for IP2 and IP3 for the emergency diesel generator (EDG) air start receiver pressures. It would also revise the description in the Updated Final Safety Analysis Reports for IP2 and IP3 of the starting air systems for the EDGs.

The Nuclear Regulatory Commission staff is reviewing the 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). On May 3, 2010, the Entergy staff indicated that a response to the RAI would be provided within 40 days of the date of this letter.

Please contact me at (301) 415-2901 if you have any questions on this issue.

Sincerely,

A handwritten signature in cursive script that reads "John P. Boska".

John P. Boska, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosure:
RAI

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
REGARDING AMENDMENT APPLICATION FOR
DIESEL GENERATOR AIR START RECEIVER PRESSURE
ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
DOCKET NOS. 50-247 AND 50-286

On November 17, 2009, Entergy Nuclear Operations, Inc. (Entergy), submitted an application for a proposed amendment for Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3) which would revise the pressure limits in the Technical Specifications for IP2 and IP3 for the emergency diesel generator (EDG) air start receiver pressures. It would also revise the description in the Updated Final Safety Analysis Reports for IP2 and IP3 of the starting air systems for the EDGs. The Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and has the following questions:

Background: The guidelines of Section 9.5.6, "Emergency Diesel Engine Starting System," of the NRC Standard Review Plan (NUREG-0800) describes that the system should be capable of cranking a cold engine five times without recharging the receiver.

The safety analyses reports for IP2 and IP3 included the following design basis information:

- Each air receiver has sufficient storage for four normal starts.
- Any two diesels have adequate capacity to supply the required engineered safety features for the design-basis accident (DBA) concurrent with a loss of offsite power.
- One diesel is adequate to provide power for a safe and orderly plant shutdown in the event of loss-of-offsite electrical power.
- Sufficient fuel is maintained onsite to operate minimum engineered safety features loading for a DBA for 7 days.

RAI 1:

The license amendment request includes the following statement regarding subsequent starts of the emergency diesel generators:

The IP2 change from 4 to 2 starts and the IP3 change from 4 to 3 do not reduce the margin to safety because only one start has been postulated in the analyses of record and the OCT [over-crank timer] would have reduced the amount of air in the air receivers if it did not start. What is lost is some of the ability to attempt to restart the EDG after the initial event. If an EDG is manually stopped there may be air sufficient for one or two restarts.

The design basis includes consideration of a single active failure or certain single passive failures. If all three unit EDGs started to mitigate a DBA, and operators secured one of the three EDGs to preserve fuel consistent with the design basis, and one of the two operating EDGs subsequently failed (design basis single failure), explain whether the first shutdown EDG could be restarted for necessary accident mitigation and the status of this capability with respect to the licensing basis of each facility.

RAI 2:

Section 2.0, "Proposed Changes," of the license amendment request includes a description of the change in the number of EDG starts provided by the stored air in each air receiver. However, the license amendment request describes that the change in the number of starts results from changes in the method of calculation rather than a substantive change in the design of the starting air system.

The requirements of 10 CFR 50.71(e) specify that updates to the final safety analysis report shall include the effects of evaluations performed by the licensee in support of approved operating amendments. Accordingly, please clarify the description of the change such that it includes key attributes of the change, such as the inclusion of calculated head loss when providing air at the specified minimum pressure at the air start motor inlet.

RAI 3:

The license amendment request includes the following statement regarding the IP2 EDG lubricators:

For IP2 the EDG lubricators require an average of 40 scfm [standard cubic feet per minute] to obtain the maximum drip so 20 scfm was assumed to be flowing through each starting air motor header.

The function of the cited EDG lubricators is unclear. Many air start motors have in-line lubrication through the air line. The calculation of air demand for an EDG start (Enclosure 1 to the license amendment request) showed the lubricator air flow added to the air start motor required flow. Clarify the function of the lubricators and explain whether the lubricator air flow was properly considered in the minimum required air start motor air flow.

RAI 4:

The calculations provided in Enclosures 1 and 2 to the license amendment request determined that the air receiver pressure on each start dropped by approximately 38.2 pounds per square inch (psi) for the IP2 EDGs and by approximately 34 psi for the IP3 EDGs. Provide data from recent surveillance tests validating the calculated receiver pressure drop per start. Explain any significant discrepancy between test and calculated pressure drop.

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/RA/

John P. Boska, Senior Project Manager
Plant Licensing Branch I-1
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Enclosure:

RAI

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ADAMS ACCESSION NO.: ML101200148

*See memo dated 4/21/10

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