



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

January 9, 2009

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 NO. 2 - REQUEST FOR  
ADDITIONAL INFORMATION REGARDING AMENDMENT APPLICATION FOR  
REVISION TO DIESEL GENERATOR SURVEILLANCE TEST  
(TAC NO. MD9214)

Dear Sir or Madam:

On July 9, 2008, Entergy Nuclear Operations, Inc. (Entergy), submitted an application for a proposed amendment for Indian Point Nuclear Generating Unit No. 2 which would revise the test acceptance criteria for the endurance test for the emergency diesel generators, Technical Specification Surveillance Requirement 3.8.1.10. On September 29, October 3, and October 8, 2008, Entergy submitted supplemental information in response to a request from the Nuclear Regulatory Commission (NRC) staff.

The NRC staff is reviewing the submittals 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). Please provide a response within 30 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 No. 50-247

Enclosure:  
RAI

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REQUEST FOR ADDITIONAL INFORMATION  
REGARDING AMENDMENT APPLICATION FOR REVISION TO  
DIESEL GENERATOR SURVEILLANCE TEST  
ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2  
DOCKET NO. 50-247

By letter dated July 9, 2008, Agencywide Documents Access and Management System (ADAMS) Accession No. ML081980160, Entergy Nuclear Operations, Inc. (Entergy or the licensee) requested an amendment to the Technical Specifications (TS), Appendix A of Facility Operating License No. DPR-26 for Indian Point Nuclear Generating Unit No. 2. On September 29, October 3, and October 8, 2008, ADAMS Accession Nos. ML082760289, ML082820162, and ML082890535, Entergy submitted supplemental information in response to a request from the Nuclear Regulatory Commission (NRC) staff. The proposed change would revise the test acceptance criteria specified in TS Surveillance Requirement (SR) 3.8.1.10 for the diesel generator endurance test surveillance. The licensee has proposed revising the load ranges and power factors specified for the endurance test for consistency with the associated plant safety analyses. The NRC staff is reviewing the submittal and has the following questions:

1. The following information request results from the NRC staff's review of your September 29, 2008, supplemental letter (specifically your response to staff question number 3). Provide a copy of the calculation FEX-00083-00, "Dynamic Loading of Emergency Diesel Generators." Provide details (e.g., model and settings) of the overcurrent protection provided on the emergency diesel generator breaker. Also, confirm that the protection settings are such that the breaker would not trip on overcurrent due to starting (i.e., inrush) current of the component cooling water pump motor when the emergency diesel generator is already loaded close to its short time rating (i.e, 2050-2100 kilowatts (kW)).
2. Provide the technical basis for the emergency diesel generator loading criteria in TS SR 3.8.1.10 that you proposed in your September 29, 2008, supplemental letter.
3. Question number 6 of NRC letter dated September 5, 2008, was related to kilovolt ampere reactive (kVAR) losses in the electrical system and the impact on the emergency diesel generator and the switchgear as a consequence of higher current required for kVAR (including losses) production from the emergency diesel generator. The Indian Point Unit 2 emergency diesel generator loading calculation indicates that the equivalent power factor, derived from load studies, is 0.87-0.88. Since the emergency diesel generator is rated for a 0.8 power factor, the licensee concluded that this criteria was acceptable.

The licensee's October 8, 2008, supplemental response indicates that the equivalent power factor for the emergency diesel generator load is based on a calculation using

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offsite power. The licensee performed the load flow studies using SKM Power Tools software (DAPPER). The licensee stated that the load flow analyses are performed in an iterative process that considers both kW and kVAR losses throughout the electrical system. It is not clear from the licensee's responses as to how the losses in the Indian Point Unit 2 electrical system that would be powered from the emergency diesel generator were evaluated. Given that, the load flow analyses provide total losses in the electrical system and depending on the loads that were simulated with the auxiliaries powered from the offsite source, the power factor and system losses may not accurately reflect the accident load profile.

- a) Describe, in detail, the loads that were simulated with offsite power available, to evaluate the power factor for the worst case loss of offsite power/loss-of-coolant accident loading of the emergency diesel generator. Include load flow printouts from DAPPER to supplement the explanation.
  - b) Confirm that you have reviewed both the kW and kVAR losses at the emergency diesel generator bus and selected the emergency diesel generator power factor based on this review.
4. WCAP-12665, Revision 2, "Emergency Diesel Generator Loading Study," analyzes the diesel loads for both large and small Loss of Coolant Accidents (LOCAs). Chapter 5 for the large LOCA and chapter 6 for the small LOCA assumes operator actions are taken at certain times, which affects the diesel loads. A statement is made that "The times used for manual actions are based on times that should be typical for performing the actions in the EOPs [emergency operating procedures]. These times can be confirmed by the operations staff ...." Please describe how the timing assumed for manual actions were confirmed to be appropriate for IP2.

January 9, 2009

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Sincerely,

/RA/

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

Docket No. 50-247

Enclosure:

RAI

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ADAMS ACCESSION NUMBER: ML090080376

\*See memo dated 12/18/08

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