



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

February 18, 2016

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 RELATED TO LICENSE AMENDMENT REQUEST REGARDING MODERATOR TEMPERATURE COEFFICIENT MEASUREMENT CHANGE (CAC NOS. MF7193 AND MF7194)

Dear Sir or Madam:

By application dated December 10, 2015 (Agencywide Documents Access and Management System Accession No. ML15350A011), Entergy Nuclear Operations, Inc., the licensee, submitted a license amendment request that would change the near-end-of-life moderator temperature coefficient Surveillance Requirement 3.1.3.2 and Technical Specification 5.6.5 for Indian Point Nuclear Generating Unit Nos. 2 and 3.

The U.S. Nuclear Regulatory Commission staff is reviewing the amendment request 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). Based on our discussions, we understand that a response to the RAI will be provided within 30 days of the date of this letter.

Please contact me at (301) 415-1364 or Douglas.Pickett@nrc.gov if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Douglas V. Pickett".

Douglas V. Pickett, 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:
Request for Additional Information

cc w/enclosure: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST REGARDING MODERATOR TEMPERATURE
COEFFICIENT MEASUREMENT CHANGE
ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
DOCKET NOS. 50-247 AND 50-286

By letter dated December 10, 2015 (Agencywide Documents Access and Management System Accession No. ML15350A011), Entergy Nuclear Operations, Inc., the licensee, submitted a license amendment request (LAR) that proposes to change the near-end-of-life moderator temperature coefficient (MTC) Surveillance Requirement 3.1.3.2 and Technical Specification (TS) 5.6.5 for Indian Point Nuclear Generating (Indian Point) Unit Nos. 2 and 3.

The U.S. Nuclear Regulatory Commission staff has reviewed the amendment request and determined that the following additional information is required in order to complete the evaluation.

Reactor Systems Branch (SRXB) – Request for Additional Information (RAI) 1

The licensee's application states that in order to replace performing the MTC measurement at end-of-life, the surveillance will be met by using a design calculation, provided that predefined requirements are met as outlined in WCAP-13749-P-A. The licensee further states that core design calculations are performed using a PARAGON/ANC system, which is considered equivalent to the PHOENIX-P/ANC, based on the approval of Topical Report WCAP-16045-P-A. However, in Attachment 5 of the submittal, in its response to the Beaver Valley Power Station (BVPS) RAI, Question 2, the licensee mentions the NEXUS/ANC code package when demonstrating that the predictive correction terms are equivalent between PHOENIX-P and PARAGON. Please clarify which code (PARAGON/ANC or NEXUS/ANC) is performing the design calculation of core MTC.

SRXB – RAI 2

In the LAR, Attachment 5, response to the Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant (Vogtle) RAI, Question 2, it is stated that Indian Point does not propose to add PHOENIX-P, PARAGON, or NEXUS to the listed core operating limit report (COLR) references in the TSs and cites Vogtle as a precedent. However, the NRC staff has reviewed the Vogtle COLR references in its TSs and has found that Vogtle does include PARAGON and NEXUS in the TS COLR references. Additionally, the NRC staff reviewed other similar precedents and found that the neutronics methods are included in the TS COLR section. Since the neutronics codes are used to confirm reload parameters, including MTC, the NRC staff views these codes as an integral part of establishing the COLR parameters for each cycle. However, the staff acknowledges that this may not be clear in NRC Generic Letter 88-16, "Removal of Cycle-

Enclosure

specific Parameter Limits from Technical Specifications.” Therefore, the staff requests that the neutronics codes that will be used to confirm reload parameters be included in the TS COLR section, to be consistent with the previous precedents.

SRXB – RAI 3

The licensee’s submittal provides BOL HZP ITC data in Attachment 5 in response to BVPS RAI, Question 1. Tables 1 and 2 detail measured and predicted BOL HZP ITC values. Please clarify what code system (PHOENIX-P/ANC, PARAGON/ANC, or NEXUS/ANC) is used to predict the BOL HZP ITC.

February 18, 2016

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 RELATED TO LICENSE AMENDMENT REQUEST REGARDING MODERATOR TEMPERATURE COEFFICIENT MEASUREMENT CHANGE (CAC NOS. MF7193 AND MF7194)

Dear Sir or Madam:

By application dated December 10, 2015 (Agencywide Documents Access and Management System Accession No. ML15350A011), Entergy Nuclear Operations, Inc., the licensee, submitted a license amendment request that would change the near-end-of-life moderator temperature coefficient Surveillance Requirement 3.1.3.2 and Technical Specification 5.6.5 for Indian Point Nuclear Generating Unit Nos. 2 and 3.

The U.S. Nuclear Regulatory Commission staff is reviewing the amendment request 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). Based on our discussions, we understand that a response to the RAI will be provided within 30 days of the date of this letter.

Please contact me at (301) 415-1364 or Douglas.Pickett@nrc.gov if you have any questions.

Sincerely,

/RA/

Douglas V. Pickett, 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:
Request for Additional Information

cc w/enclosure: Distribution via Listserv

DISTRIBUTION:

PUBLIC
LPL1-1 Reading File
RidsNrrDorIDpr
RidsNrrDssSrx

RidsNrrDorLpl1-1
RidsNrrLAKGoldstein
RidsRgn1MailCenter
WMacFee, NRR

RidsNrrPMIndianPoint
RidsACRS_MailCTR
GDentel, R-I

ADAMS Accession No.: ML16041A578 *by e-mail

OFFICE	DORL/LPL1-1/PM	DORL/LPL1-1/LA	DSS/SRXB/BC(A)*	DORL/LPL1-1/BC
NAME	DPickett	KGoldstein (LRonewicz for)	EOesterle	TTate
DATE	2/ 17 /2016	2/ 12 /2016	2/ 5 /2016	2/ 18 /2016

OFFICIAL RECORD COPY