



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

January 21, 2015

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 - SUPPLEMENTAL
INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING
ACTION RE: SPENT FUEL POOL CRITICALITY ANALYSIS
(TAC NO. MF5282)

Dear Sir or Madam:

By letter dated November 13, 2014, Entergy Nuclear Operations, Inc., Entergy, or the licensee, submitted a proprietary and non-proprietary version of NETCO Report NET-300067-01, "Criticality Safety Analysis of the Indian Point Unit 2 Spent Fuel Pool with Credit for Inserted Neutron Absorber Panels." NET-300067-01 includes NETCO's methodology for analyzing spent fuel pool criticality. Entergy requested Nuclear Regulatory Commission (NRC) review and approval to support a future license amendment request. The NRC staff understands that Entergy plans on crediting NRC approval of NET-300067-01 in a future license amendment request that will propose technical specification changes associated with the installation of new neutron absorber panels.

The purpose of this letter is to provide the results of the NRC staff's acceptance review of this request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed request in terms of regulatory requirements and the protection of public health and safety and the environment.

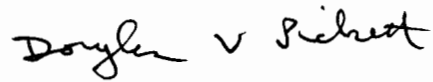
In order to make the application complete, the NRC staff requests that Entergy supplement the application to address the information requested in the enclosure within 13 working days or February 5, 2015. This will enable the staff to begin its detailed technical review. If the information responsive to the staff's request is not received by the above date, the application will not be accepted for review pursuant to Title 10 of the *Code of Federal Regulations* Section 2.101, "Filing of Application," and the staff will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

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The information requested and associated time frame in this letter were discussed with Mr. Robert Walpole of your staff on January 16, 2015.

If you have any questions, please contact me at 301-415-1364.

Sincerely,

A handwritten signature in black ink that reads "Douglas V. Pickett". The signature is written in a cursive style with a large 'D' and a distinct 'V'.

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure:
As stated

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SUPPLEMENTAL INFORMATION NEEDED
NETCO SPENT FUEL POOL CRITICALITY ANALYSIS
ENERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247

NRC's Reactor Systems Branch is currently performing the NRR Office Instruction LIC-109 acceptance review for NETCO Report NET-300067-01, "Criticality Safety Analysis of the Indian Point Unit 2 Spent Fuel Pool with Credit for Inserted Neutron Absorber Panels," that was included in the licensee's application dated November 13, 2014 (Agencywide Documents Access and Management System Accession No. ML14329A194). The staff has recommended a finding of non-accept with the opportunity to supplement.

The staff has identified concerns regarding the depletion code validation methodology. In the application, it is stated that

For the burned fuel, two approaches for validation are used: EPRI Benchmarks [9, 10] and an extension of ISG-8, Rev. 3 [11]. The more limiting of the two approaches is used for the validation of the burned fuel.

Both Reference [9]: K. S. Smith, et al., *Benchmarks for Quantifying Fuel Reactivity Depletion Uncertainty*, EPRI, Palo Alto, CA, Technical Report Number 1022909 (2011) and Reference [10]: D. B. Lancaster, *Utilization of the EPRI Depletion Benchmarks for Burnup Credit Validation*, EPRI, Palo Alto, CA, 1025203 (2012), are currently under review and are not approved for generic use. LIC-109 states that the NRC staff will not accept new licensing actions that rely on unapproved topical reports. While the staff review of the two referenced EPRI reports is ongoing, final resolution may involve a significant amount of time.

Furthermore, the "Extended ISG-8" approach to Reference [11]: *Spent Fuel Project Office Interim Staff Guidance – 8, Rev 3 – Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks*, NRC, April 2012, does not conform to staff guidance as intended. There are significant deviations and the methodology is not consistent with current NRR guidance provided in DSS-ISG-2010-01 regarding depletion code validation.

The NRC staff recommends that the application be supplemented and based upon NRC-approved methodologies.

Enclosure

The information requested and associated time frame in this letter were discussed with Mr. Robert Walpole of your staff on January 16, 2015.

If you have any questions, please contact me at 301-415-1364.

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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As stated

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OFFICE	LPL1-1/PM	LPL1-1/LA	SRXB/BC	LPL1-1/BC
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DATE	01/16/2015	01/16/2015	01/16/2015	01/21/2015

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