



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

June 26, 2012

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 RE: PROPOSED LICENSE
AMENDMENT TO ALLOW USE OF THE BACKUP SPENT FUEL POOL
COOLING SYSTEM WHILE THE SPENT FUEL POOL COOLING SYSTEM IS
OUT OF SERVICE - INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
(TAC NO. ME8097)

Dear Sir or Madam:

By letter dated February 6, 2012, as supplemented on May 2, 2012, Entergy Nuclear Operations, Inc., the licensee, submitted a license amendment request for Indian Point Nuclear Generating Unit No. 3. The proposed amendment would revise the Updated Final Safety Analysis Report to allow use of the backup spent fuel pool cooling system when the normal spent fuel pool cooling system is out of service.

The Nuclear Regulatory Commission staff has reviewed the incoming application as supplemented and has identified the enclosed request for additional information (RAI). In discussions with your staff, we understand that you intend to respond to the enclosed RAI by approximately August 6, 2012.

Please contact me at 301-415-1364 if you have any questions.

Sincerely,

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

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

Docket No 50-286

Enclosure:
As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
OFFICE OF NUCLEAR REACTOR REGULATION
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
BACKUP SPENT FUEL POOL COOLING SYSTEM

Entergy Nuclear Operations, Inc, (the licensee) submitted a request for a license amendment by letter dated February 6, 2012 to allow the use of the backup spent fuel pool cooling system (BSFPCS) when the spent fuel pool cooling system (SFPCS) is out of service. The staff discussed the license amendment with the licensee on April 16, 2012, and provided the results of its acceptance review in a letter to the licensee on April 18, 2012 (ML121080205) and concluded that additional information was necessary before the staff could make an assessment regarding acceptability of the amendment. In a supplement to this request dated May 2, 2012, the licensee responded to the additional information deemed necessary by the NRC staff.

Following review of the supplemental letter dated May 2, 2012, the NRC staff accepted the amendment for review. However, in the acceptance review, the staff identified the following issues and requested the following information from the licensee:

1. The licensee's response regarding the reliability of the BSFPCS versus normal SFPCS did not address measures to resolve the difference in reliability between the two systems. As described in the licensee's supplement to the license amendment request, the only physical modifications to the BSFPCS have been the hard piping of makeup water and backup fire protection water to the BSFPCS cooling tower basin. No other improvements to the capability or reliability of the BSFPCS were identified. The BSFPCS is more susceptible to external events and single failures than the normal SFPCS, and the BSFPCS cannot be returned to service once the pool temperature exceeds approximately 196°F. As such, operation with the normal SFPCS out of service results in an increase in the potential and duration for which SFP boiling and makeup would be the method of heat removal. In addition, the NRC staff notes that the primary source of makeup to the SFP as currently approved is not fully seismic Class I, contrary to the regulatory position in Regulatory Guide 1.13, "Spent Fuel Storage Facility Design Basis."

Provide a description of the measures to be put in place to compensate for the reduced reliability of the BSFPCS versus normal SFPCS and ensure the availability of SFP makeup. This would include modifications or administrative controls intended to improve the availability and reliability of the makeup system when the BSFPCS is the only available means of forced SFP cooling.

2. The licensee's response states that recovery actions for the BSFPCS will be evaluated for time of implementation in order to assess what actions may be performed before the

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SFP temperature reached 196°F. However, a minimum available time for recovery actions following a loss of BSFPCS is not identified in the response. The design basis for the normal SFPCS is that following a single failure of an active component, a redundant component could be placed in service and restore full cooling capacity. Therefore, the time required to heat the pool to approximately 196°F should be long enough to allow detection of a loss or degradation of the BSFPCS, reasonable actions to restore BSFPCS function, and implementation of actions to align SFP makeup or to restore the normal SFPCS.

Explain what limits would be placed on the available recovery time and how the available recovery time would be determined.

3. The licensee's response regarding the improvement to risk management actions includes the administrative control that "work will be scheduled when the SFP heat load is at a reduced value rather than the design value." The heat load in the SFP decreases with the time after shutdown, posing less of a challenge to the capabilities of the BSFPCS as time goes on. A minimum elapsed time after shutdown should be identified and included in administrative controls for removing the normal SFPCS from service. This minimum elapsed time should be sufficient to preclude reliance on the BSFPCS during the highest heat loads in the SFP and should ensure that the heat load is low enough to ensure that the minimum available time for recovery actions can be met. Daily variations in the wet-bulb temperature will impact the heat removal capacity of the BSFPCS; therefore a justified margin should exist between the current heat load in the SFP and the heat removal capacity of the BSFPCS at the time that normal SFPCS is removed from service.

Explain how the reduced heat load value would be limited and how this heat load would be determined.

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/ra/

Douglas Pickett, Senior Project Manager
Plant Licensing Branch I-1
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