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August 16, 2012

NL-12-117

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Response to Request for Additional Information on Relief Request IP3-ISI-RR-05 For Fourth Ten-Year Inservice Inspection Interval (TAC No. ME7940)
Indian Point Unit Number 3
Docket No. 50-286
License No. DPR-64

REFERENCES:
1. Entergy Letter NL-12-028 Regarding Relief Request IP3-ISI-RR-05 For Fourth Ten-Year Inservice Inspection Interval, dated January 30, 2012.
2. NRC Request for Additional Information Regarding Relief Request IP3-ISI-RR-05 (TAC NO. ME6801), dated July 19, 2012.

Dear Sir or Madam:

Entergy Nuclear Operations, Inc. (Entergy) submitted, in Reference 1, Relief Request No. IP3-ISI-RR-05 for the Indian Point Unit No. 3 (IP3) Fourth Ten-Year Inservice Inspection Interval. This letter is to respond to NRC questions, Reference 2, on that relief request. The response is in the Attachment.

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NRR

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact me.

Very truly yours,

A Prum acting for RW

RW/sp
cc: next page

Attachment: 1. Response to Request for Additional Information Regarding Relief Request IP3-ISI-RR-05

cc: Mr. Douglas Pickett, Senior Project Manager, NRC NRR DORL
Mr. William M. Dean, Regional Administrator, NRC Region I
NRC Resident Inspector's Office Indian Point
Ms. Bridget Frymire, New York State Department of Public Service
Mr. Francis J. Murray Jr., President and CEO NYSERDA

ATTACHMENT TO NL-12-117

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

REGARDING RELIEF REQUEST IP3-ISI-RR-05

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

By letter dated January 30, 2012, Entergy Nuclear Operations, Inc. (Entergy) submitted Relief Request IP3-1SI-RR-05, "Proposed Alternative to Use ASME Code Case N-716," (ML 12039A253) for Nuclear Regulatory Commission review and authorization. The NRC Staff has requested the following information to complete their review:

Question 1

The submittal indicates that a full-scope peer review was performed in 2010 for the internal events probabilistic risk assessment (PRA) and gap or self assessments have been performed periodically since this peer review. The application also indicates that the PRA model has been revised periodically and some of these revisions included changes to address findings from the past peer review and self assessments.

a. If any changes, since the independent full-scope peer review, are characterized as a PRA upgrade per ASME/ANS-RA-Sa-2009, please identify if a focused-scope peer review was performed for these changes consistent with the guidance in American Society of Mechanical Engineers/American Nuclear Society [ASME/ANS]-RA-Sa-2009, as endorsed by Regulatory Guide 1.200, and describe any findings from that focused-scope peer review and the resolution of these findings for this application.

b. If a focused-scope peer review has not been performed for changes characterized as a PRA upgrade, please describe what actions will be implemented to address this review deficiency and when the application will be supplemented to describe any findings from that focused-scope peer review and the resolution of these findings for this application.

Response

Changes made to the model to address previous peer reviews and the self assessment performed in preparation for the 2010 PWR Owners Group (PWROG) full-scope peer review were completed prior to the PWROG peer review and provided to the peer review team. The final peer review report was issued in October 2011. Changes made to the model since the PWROG peer review have focused on addressing the peer review results.

With respect to any changes since the PWROG peer review that might constitute an "upgrade" (and therefore necessitate a follow-on focused peer review), the ASME Standard defines an upgrade as "the incorporation into a PRA model of a new methodology or significant changes in scope or capability that impact the significant accident sequences or the significant accident progression sequences. This could include items such as new human error analysis methodology; new data update methods, new approaches to quantification or truncation, or new treatment of common cause failure."

None of the model or documentation changes made to address the IP3 PWROG peer review findings involved new methodologies; or significant scope or capability changes that impact the significant accident sequences or the significant accident progression sequences. Most of the peer review findings related to documentation improvements. Where modeling changes were made since the peer review, we believe that those changes would constitute PRA maintenance (as defined in the standard) since, as described in Section 1-A.2 of the ASME standard, they involve changes within the framework of an existing model structure and PRA configuration control program, and involve methodologies that have been applied in the PRA, and been previously peer reviewed. The ASME standard also suggests that changes be examined to determine if they have a significant impact on risk insights. None of the changes made subsequent to the PWROG peer review significantly alter the risk insights developed prior to the peer review.

As a result, no additional self assessment or follow-on peer review was required or has been done since that time.

Question 2

For finding 6-11, the licensee indicated that the finding was resolved because "a list of internal flooding sources has been developed and will be included in a new Table 4.2.1.1 in the final update report." Please confirm that the final update report has been issued with the list of internal flooding sources developed and included.

Response

The table mentioned has been added to the update report. As we noted in the Relief request, formal issuance of the model and report was "expected later this year". That has not yet taken place but is still expected to be done this year. The inclusion of the integrated list provided in Table 4.2.1.1 was a completeness issue since the full hazard analysis identified the flood sources as part of the evaluation performed for each potential flood location. It should be noted that the integrated list also includes the additional sources identified during the peer review resolution process, as discussed in Attachment A of the Relief Request.

Question 3

For finding 6-1, the peer review team suggests performing rigorous evaluation/justification of the condensate storage tank (CST) inventory to support 24hour Auxiliary Feed water System (AFW) operation because of discrepancy between information provided by the licensee in documentation and a Modular Accident Analysis Program (MAAP) analysis. The submittal asserts that the documentation has been updated to remove discrepancies. Considering the negative impact that an inadequate supply of CST inventory could have on the mitigating capabilities of AFW following a transient involving a loss of inventory or reduction in mitigation capabilities of core cooling, please confirm the model documentation has been modified indicating the CST inventory and its suitability to support a 24 hour mission time to support AFW operation.

Response

The condensate storage tank (CST) has a maximum capacity of 600,000 gallons, of which 360,000 gallons are reserved for use by the auxiliary feedwater system. The CST is provided with redundant level indication, control and isolation devices to assure that the tank total inventory does not fall below 360,000 gallons in the event of a single active failure. If the level in the CST reaches a pre-set value, an interlock will close redundant level control valves (LCVs) 1158-1 and 1158-2 and isolate the normal flow of condensate to the condenser hotwell to preserve this minimum total inventory.

To address the Peer Review Team F&O, the basis in the model update report for the CST volume being adequate to meet the mission time has been revised to reflect the results of the analysis performed for the IP3 stretch power uprate (SPU). That analysis, documented in WCAP-16212-P, "Indian Point Nuclear Generating Unit No. 3 Stretch Power Uprate NSSS and BOP Licensing Report", dated June 2004, notes that the IP3 licensing basis requires that, for the limiting transient, "sufficient CST useable inventory must be available to bring the unit from full-power to hot-standby conditions, and maintain the plant at hot standby for 24 hours."

The WCAP analysis was based on conservative assumptions, including:

- Reactor trip occurs from 102 percent of rated core power (3216 MWt), from a low-low water level in the steam generators. A 2-second delay is assumed before reactor trip following LOOP.

- Steam is released from the steam generators at the first safety valve setpoint plus setting tolerance for drift.

- The steam generators are filled back up to 52-percent narrow range water level.

- The CST operating fluid temperature is at the maximum allowable value (120°F).

The WCAP concluded that "a minimum required useable inventory of 292,200 gallons is required to meet the plant licensing bases for the range of NSSS design parameters approved for SPU. As discussed in Section 9.12, the CST Technical Specification requirement of 360,000 gallons ensures a usable volume of 292,200 gallons to meet the limiting design basis requirement."

The WCAP analysis therefore supports concluding that the CST volume is sufficient to meet the AFW 24 hour mission time in the PSA update model. The WCAP results are also reflected in the IP3 Technical Specification Basis Document, which references the abovementioned WCAP.

Although not credited in assuring that the CST minimum volume is available, it is also noted that the CST is normally maintained with a minimum inventory of greater than 438,000 gallons, which is significantly higher than the technical specification lower limit.

The IP3 PSA Update report has been revised to reflect the above information and reference.

Question 4

The request for alternative states that Alloy 82/182 welds will be examined under the requirements of Code Case N-770-1, as required and conditioned by Title 10 of the Code of Federal Regulations, Part 50, Paragraph 55a(g)(6)(ii)(F), once the program has been formally implemented in 2013. Code Case N-770-1 has already been implemented and baseline examinations are due by the first refueling outage beginning after January 20, 2012. Please indicate if you are in compliance with the requirements of Code Case N-770-1.

Response

IP3 is in compliance with Code Case N-770-1 as our examinations for the code case are scheduled for 3R17 which is the first RFO after January 20, 2012.