

May 14, 2008

LICENSEE: Entergy Nuclear Operations, Inc.  
FACILITY: Indian Point Nuclear Generating Unit Nos. 2 and 3  
SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON MARCH 31, 2008, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING DRAFT REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE SEVERE ACCIDENT MITIGATION ALTERNATIVES ANALYSIS FOR INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc., held a telephone conference call on March 31, 2008, to discuss and clarify the staff's draft request for additional information (D-RAIs) concerning the Indian Point Nuclear Generating Unit Nos. 2 and 3 severe accident mitigation alternative (SAMA) analysis from its license renewal application. The telephone conference call was useful in clarifying the intent of the staff's SAMA D-RAIs.

Enclosure 1 provides a listing of the participants; and Enclosure 2 contains a listing of the D-RAIs discussed with the applicant.

**\RAI**

Bo M. Pham, Senior Project Manager  
Projects Branch 2  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosures:  
As stated

cc w/encls: See next page

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**\RA\**

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Letter to Entergy from B. Pham, dated May 14, 2008

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TELEPHONE CONFERENCE CALL  
INDIAN POINT NUCLEAR GENERATING UNIT NOS 2 AND 3  
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS  
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**Draft Request for Additional Information  
Regarding the Analysis of Severe Accident Mitigation Alternatives  
for Indian Point Nuclear Generating Unit Nos. 2 and 3**

1. The response to RAI 1d addresses why the total loss of service water (SW) is low for both units but does not discuss the reason for Unit 2 having a loss of SW contribution that is nearly an order of magnitude lower than Unit 3. Explain the plant or model features that cause this difference.
2. Explain why the IP3 analysis cases for “DC Power/AFW System Changes,” “AC Power Cross-Tie with IP2,” and “Backup DC Power Supply” result in no reduction in population dose or offsite economic cost risk (OECR) for the SAMAs considered therein.
3. In ER Tables E.2-3 and E.4-3, the benefit value for Sensitivity Case 3 (Loss of Tourism and Business) is same as for the Baseline Case for a large number of analysis cases. Confirm whether Sensitivity Case 3 values were actually calculated when the reduction in population dose and OECR were below some threshold value. If not, several revised benefit values provided in response to RAI 4e (i.e., columns 2 and 3 of the tables) may understate the benefits for the affected SAMAs. The affected SAMAs include: IP2 SAMAs 4-6, 18, 25-27, 29-32, 34-39, 40, 41-43, 48-50, 56, 59, 63, 64, 67, 68, and IP3 SAMAs 2, 24-26, 28, 29, 32, 33, 35-37, 40, 42, 47, 48, 51, 56, 58, and revised SAMA 30. Update the tables provided in response to RAI 4e, if necessary, to assure that the benefit estimates for the aforementioned SAMAs fully account for the impacts of loss of tourism and business.
4. The response to RAI 2b indicates that steam generator tube ruptures (SGTRs) induced by high primary side pressures following core damage are addressed in the IP2 PRA model using the information from the NUREG-1150 In-Vessel Expert Panel, but does not provide the explicit modeling approach. The response associated with IP3 also does not appear to address this issue. Describe the current IP2 and IP3 modeling approach for thermally-induced SGTR events including the conditional probabilities and the associated conditions used to assess the likelihood of a thermally-induced SGTR (TI-SGTR), and the conditional probabilities for a stuck open main steam safety valve during a TI-SGTR event. Provide the bases for these values.
5. Provide an assessment of the impact on the identification and screening of SGTR-related SAMAs if the conditional probabilities of TI-SGTR (discussed in item 4 above) are increased to values comparable to those reported in NUREG-1570. Provide a further evaluation and discussion of any additional SGTR-related SAMAs that could become potentially cost-beneficial under these assumptions (including the SAMAs addressed by the analysis cases identified in item 2 above) and Entergy’s planned follow-up actions regarding these SAMAs.
6. The SAMA analysis for Beaver Valley Power Station identified as potentially cost-beneficial the purchase or manufacture of a “gagging device” that could be used to close a stuck-open steam generator safety valve on the ruptured steam generator prior to core damage in SGTR events. Provide an evaluation of the viability of this SAMA for the Indian Point units, including the estimated costs and benefits under the assumptions of items 5 and 8.

7. The response to RAI 4e states that Sensitivity Case 3 with uncertainty results in two additional SAMAs (009 and 053) for IP2 and one additional SAMA (053) for IP3. Discuss Entergy's planned follow-up actions regarding these additional SAMAs.
8. The response to RAI 5l shows a \$236,000 contingency cost as part of the cost breakdown. However, Section 4.21.5.4, "Final Screening and Cost/Benefit Evaluation (Phase II)" of the environmental report states that "the cost estimates for implementing the SAMAs did not include the cost of replacement power during extended outages required to implement the modifications, nor did they include contingency cost associated with unforeseen implementation obstacles." Explain this apparent discrepancy. Identify any other cost estimates in the SAMA analyses that include contingency costs. Provide the impact on the SAMA evaluation if all contingent costs are included.