Entergy

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October 1, 2007

Re: Indian Point Unit No. 3
Docket No. 50-286
NL-07-114

Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Stop O-P1-17
Washington, DC 20555-0001

Subject: **10 CFR 50.59(d) Report for Indian Point Unit No. 3**

Dear Sir or Madam:

Pursuant to 10 CFR 50.59 (d)(2), enclosed please find a 50.59 report listing and summary report of the changes, tests and experiments implemented at Indian Point Unit 3 between April 7, 2005 and March 31, 2007, or utilized in support of the UFSAR update. The summaries 50.59 Evaluations set forth in the report represent the changes in the facilities, changes in procedures, and tests and experiments implemented pursuant to 10 CFR 50.59.

Attachment 2 provides a summary of these evaluations implemented for the period defined above.

There are no new commitments made by Entergy contained in this letter. If you have any questions, please contact me at (914) 734-6710.

Very truly yours,

Robert Walpole
Manager, Licensing
Indian Point Energy Center

Attachment 1 – 50.59 Report Listing
Attachment 2 - 50.59 Summary of Changes, Tests and Experiments

cc: see next page

IE47
NRR

cc: Mr. John Boska,
NRR Senior Project Manager

Mr. Samuel J. Collins,
Regional Administrator, Region 1

Mr. Paul Eddy,
NYS Public Service Commission

Mr. Paul D. Tonko, President
NYSERDA

Unit 2 & 3 IPEC NRC Resident Inspector's Office

ATTACHMENT 1 TO NL-07-114

50.59 REPORT LISTING

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

50.59 REPORT LISTING

50.59 EVALUATION NUMBER	Rev. No.	Unit 3 – 2007 Report 50.59 EVALUATION TITLE
04-1572-MD-00-RE	0	UFSAR Appendix 14A, Rev. 4, Changes to Turbine Missile Analysis due to Power Uprate
05-0299-MD-00-RE	1	IP3 Cycle 14 Core Reload Design

ATTACHMENT 2 TO NL-07-114

50.59 SUMMARY OF CHANGES, TESTS AND EXPERIMENTS

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

50.59 Summary of Changes, Tests and Experiments

50.59 Evaluation No.	Rev. No.	TITLE
04-1572-MD-00-RE	0	UFSAR Appendix 14A, Rev. 4, Changes to Turbine Missile Analysis due to Power Uprate

Brief Description of the Change, Test or Experiment:

UFSAR, Appendix 14A, provides the turbine missile analysis for MOD 90-03-182 which retrofitted the plant with new ABB designed Low Pressure Turbines (LPs) in December 1990. The predominant risk in this study was a turbine rotor failure from stress corrosion cracking (SSC). This risk is presented in Figure 7.1 of App. 14A as a curve of Probability of Rotor Failure vs. Turbine Service Life (calendar years between overhauls). Rev. 4 to UFSAR, App. 14A will revise Figure 7.1 to: 1) update failure rate curves with accumulated turbine experience data from a fleet of 234 Alstom turbines and 2) show the effects on turbine service life from an increase of 8°C in turbine inlet temperature for a 3180 MWth heat balance. The revised heat balance is for the power uprate associated with the HP Turbine Optimization (Mod 04-3-035) to be implemented in Spring 2005. The new curves employ the current industry practice of 50% confidence bound statistical evaluation instead of the original 95% confidence bound. Using the updated turbine experience data, the maximum inspection interval increases to 17 years service life after the power uprate.

Summary of the associated 10 CFR 50.59 Evaluation

Using pre-1990 turbine operating data, the calculated turbine failure probability using a 50% confidence bound will exceed the failure rate limit of 1.0E-5 in approximately 14 ½ years of turbine service life. Using the same operating data, a 95% confidence bound probability will exceed the failure rate limit in 14 years as shown in the unrevised Figure 7.1. This comparison shows that the effect in minimal on turbine failure probability when using the industry practice of 50% confidence limit instead of the previous 95% confidence. When updating Figure 7.1 with accumulated industry operating experience the maximum turbine service life extends to 20 years before a major overhaul inspection in required. The increase in NSSS Power to 3180 MWth will decrease the service life to 17 years, but with a normal major inspection interval of 8 calendar years, turbine rotor failure probability is kept well below the established regulatory limit of 1.0E-5 for an unfavorably oriented turbine.

50.59 Evaluation No.	Rev. No.	TITLE
05-0299-MD-00-RE	1	IP3 Cycle 14 Core Reload Design

Brief Description of the Change, Test or Experiment:

This evaluation (EVAL) reviews and evaluates the IP3 Cycle 14 fuel, core and cycle design, with emphasis on the differences between Cycles 13 and 14, to demonstrate that the core reload may be implemented without requiring pre-approval from the NRC.

Revision 1 of this EVAL supports an increase in thermal power from the Beginning-of-Life (BOL) Cycle 14 design value of 3180 MW to no greater than 3216 MW. This includes revisions to all setpoints to implement an increased power level. In addition, this EVAL discusses the changes to the Reload Safety Evaluation (RSE) and the Core Operating Limits Report (COLR), including a sign change in the OPDT Tau3 setpoint from "$\leq$ 10 sec" to "=10 sec." This EVAL supports the core reload design change covered in ER Response ER-05-3-021.

Summary of the associated 10 CFR 50.59 Evaluation

The Cycle 14 reload core design was evaluated by Westinghouse in the Reload Safety Evaluation. This is a safety-grade analysis that reviews all aspects of the new core, the energy requirements and the changes in fuel, core and cycle design. These are applied to the family of accidents that forms the IP3 design basis. The RSE concludes that all applicable criteria are met for the Cycle 14 core, based on the design features noted in Section 2.0, the configuration of the Cycle 14 loading pattern, the core design as described in core reload design change and as per the bounding conditions for energy requirements identified in the Westinghouse RSE.