Entergy Nuclear Northeast
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249
Tel 914 254 6700

Anthony J Vitale
Site Vice President

NL-16-105

September 8, 2016

U.S. Nuclear Regulatory Commission
Document Control Desk
11545 Rockville Pike, TWFN-2 F1
Rockville, MD 20852-2738

Subject: **10 CFR 50.59(d)(2) Summary Report for Indian Point Units 1 and 2**
Indian Point Nuclear Generating Unit Nos. 1 and 2
Docket Nos. 50-003 and 50-247
License Nos. DPR-5 and DPR-26

Dear Sir or Madam:

Pursuant to 10 CFR 50.59(d)(2), Entergy Nuclear Operations, Inc. (Entergy) herein submits in Attachment 1 a 50.59 summary report of the changes, tests and experiments implemented at Indian Point Unit Nos. 1 and 2 between March 20, 2014 and June 16, 2016, and/or utilized in support of the UFSAR update. The 50.59 Evaluations set forth in the report represent the changes in the facilities, changes in procedures, or tests and experiments implemented pursuant to 10 CFR 50.59.

There are no new commitments made by Entergy contained in this submittal. If you have any questions or require additional information, please contact Mr. Robert Walpole, Regulatory Assurance Manager at (914) 254-6710.

Sincerely,

For A. Vitale

AJV/rl

Attachment 1 – 10 CFR 50.59(d)(2) Summary Report of Changes, Tests and Experiments

cc: Mr. Daniel H. Dorman, Regional Administrator, NRC Region I
Mr. Douglas Pickett, NRC, Sr. Project Manager, NRC NRR DORL
Ms. Bridget Frymire, New York State Department of Public Service
Mr. John B. Rhodes, President and CEO NYSERDA
NRC Resident Inspectors

IE47
NMSS01
NRR
NMSS

ATTACHMENT 1 TO NL-16-105

# 10 CFR 50.59(d)(2) Summary Report of Changes, Tests, and Experiments

Entergy Nuclear Operations, Inc.
Indian Point Unit Nos. 1 and 2
Docket Nos. 50-003 and 50-247
License Nos. DPR-5 and DPR-26

## 50.59(d)(2) Summary Report of Changes, Tests and Experiments

| 50.59 Evaluation No. | Rev. No | TITLE |
|---|---|---|
| 14-2002-00-EVAL | 2 | Installation of New 42" Natural Gas Pipeline South of IPEC |

Brief Description of the Change, Test or Experiment:

Spectra Energy Transmission LLC / Algonquin Gas Transmission, LLC has filed with FERC a proposal to expand its natural gas transmission capacity by installing a new 42 inch diameter pipeline that transmits gas at higher pressures than the current pipelines. The 42 inch pipeline is currently proposed to cross the Hudson River south of Indian Point, be routed on the west side of Broadway where it enters the IPEC owner controlled area before passing under Broadway and near the IPEC switchyard and the Gas Turbine 2/3 Fuel Oil Storage Tank (GT 2/3 FOST) and eventually joining with the existing natural gas pipelines.

Summary of the 10 CFR 50.59 Evaluation

Revision 2 of this evaluation updates the assessment of the postulated gas pipeline rupture to include a small area of wetlands located behind the switchyard. This evaluation analyzes the effect of the proposed pipeline on the Indian Point site and concludes the change is acceptable. Currently, a 26 inch and 30 inch pipeline traverse the site along a route just south of the protected area and the effects of a rupture of that pipeline has been evaluated. For purposes of this evaluation once installed, the existing 26 inch pipeline and 30 inch pipeline are assumed to remain in use. The addition of a 42 inch pipeline south of the IPEC property that crosses IPEC property near the GT 2/3 Fuel Oil Storage Tank (FOST) and Buchanan substation creates the possibility of a gas pipeline rupture. The new gas pipeline has been routed where a gas pipeline rupture could not cause malfunction of a safety-related Structures Systems and Components (SSC) or security provisions. Therefore, there would be no increase in the likelihood of damage to those SSC. The routing is where a postulated rupture could cause a malfunction of SSC's important to safety (ITS) [Switchyard with associated transmission lines, Gas Turbine 2/3 Fuel Oil Storage Tank (GT 2/3 FOST), and Emergency Operations Facility (EOF) and meteorological tower] due to proximity. The likelihood of a gas pipeline rupture causing malfunction of SSCs ITS will be minimized by the gas pipeline design and maintenance as well as the enhancement of a substantial portion of that gas pipeline routed near the SSCs ITS. Gas pipelines have a low frequency of rupture. The new gas pipeline has been designed with the latest methodology and a significant portion has been enhanced with additional features (e.g., deeper burial, thicker pipe, stronger materials, positive means to prevent excavation and abrasion resistance coating) intended to further reduce the frequency of gas pipeline rupture in the area of SSC's ITS. The frequency is sufficiently low that the new gas pipeline will not result in more than a minimal increase in the frequency of occurrence of an accident (gas pipeline rupture) currently evaluated in the UFSAR.

| 50.59 Evaluation No. | Rev. No | TITLE |
|---|---|---|
| 15-3003-00-EVAL | 0 | Temporary Modification to Bypass 22 Emergency Diesel Generator Automatic Transfer Switch EDD6 |

Brief Description of the Change, Test or Experiment:

Temporary Modification (TMOD) EC-60486 will bypass Automatic Transfer Switch EDD6 to allow energization of the 22 Emergency Diesel Generator (22EDG) control circuit. This will allow the 22EDG to be declared operable following failure of Transfer Switch EDD6, reference CR-IP2-2015-04513, which supplies DC control power from Battery 23 (Normal) or Battery 22 (Alternate). The transfer switch is a design feature described in the UFSAR. The transfer switch will be bypassed by connecting the normal supply (Battery 23) to the common feed to the 22EDG Control Panel. This will effectively bypass the transfer switch and eliminate any transfer capability to the alternate power supply from Battery 22. The 22EDG itself will remain unchanged and still be capable of performing its design function of supplying 480Vac power to 480V Switchgear Buses 2A and 3A when needed.

Summary of the 10 CFR 50.59 Evaluation

In the original design, two redundant batteries (21/22) provided 125Vdc control power to three separate control trains required to support three separate EDGs and 3 separate load groups. In order to meet single failure criteria for two batteries, 3 EDG's and three load groups the original plant design employed load seeking transfer switches which inter-tied Battery 21 and 22 for each of the three EDG control trains and switchgear breakers. These transfer switches ensured that given the failure of a single battery or DC train minimum safeguard loads would still be maintained and 125Vdc power would be available to all 480V safeguards loads.

To resolve AEC (and later NRC) concerns associated with automatic transfer between Battery 21 and 22, Con Edison installed two additional supplemental batteries (23/24), Battery 23 associated with Battery 21, and Battery 24 associated with Battery 22. The additional batteries eliminated the need for automatic transfers between Batteries 21/22, making Batteries 21/23 the DC supply for the 21EDG, Batteries 22/23 the DC supply for the 22EDG and Batteries 22/24 the DC supply for the 23EDG.

After installation of Batteries 23 and 24, the transfer switches were no longer required for the system to meet single failure criteria. In the original plant, the EDG transfer switches prevented failure of a single DC train from impacting two EDGs. In the modified design, each EDG receives normal DC control power from separate batteries. Because each EDG supplies power to its normal DC train (including the battery), the transfer switches are no longer required to meet single failure criteria and now provide enhanced reliability only.

Although the design function of Transfer Switch EDD6 is adversely affected as described in the UFSAR, the design function is to enhance the reliability of 22EDG only and is not in itself a design basis requirement. Following installation of TMOD EC-60486, single failure criteria will still be met for the EDG system. For this reason, the possibility, frequency, and consequences of previously evaluated accidents or a different type of accident will be essentially unchanged.