



Entergy Nuclear Northeast
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249
Tel 914 734 6700

J. E. Pollock
Site Vice President

March 29, 2009

Re: Indian Point Unit 2
Docket 50-247

NL-09-001

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

**SUBJECT: Proposed Change to Indian Point 2 Technical Specifications
Regarding Battery Capacity Surveillance Requirement**

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (Entergy) hereby requests a License Amendment to Operating License DPR-26, Docket No. 50-247 for Indian Point Nuclear Generating Unit No. 2 (IP2). The proposed amendment will establish a more restrictive acceptance criterion for surveillance requirement SR 3.8.6.6 regarding periodic verification of capacity for the affected station batteries.

Attachment 1 provides a description and assessment of the proposed change. The marked-up page showing the proposed change is provided in Attachment 2. The proposed changes to the Technical Specification Bases are minor and have not been included. A copy of this application and the associated attachments are being submitted to the designated New York State official in accordance with 10 CFR 50.91.

Entergy requests approval of the proposed amendment by March 2010, with the amendment being implemented within 30 days. There are no new commitments being made in this submittal. If you have any questions or require additional information, please contact Mr. Robert Walpole, Manager, Licensing at (914) 734-6710.

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WRR

I declare under penalty of perjury that the foregoing is true and correct. Executed on 29th March 2009

Sincerely,



J. E. Pollock
Site Vice President
Indian Point Energy Center

Attachments:

1. Analysis of Proposed Technical Specification Change Regarding Battery Surveillance Requirement SR 3.8.6.6
2. Markup of Technical Specification Page for Proposed Change Regarding Battery Surveillance Requirement SR 3.8.6.6

cc: Mr. John P. Boska, Senior Project Manager, NRC NRR DORL
Mr. Samuel J. Collins, Regional Administrator, NRC Region 1
NRC Resident Inspector, IP2
Mr. Robert Callender, Vice President, NYSERDA
Mr. Paul Eddy, New York State Dept. of Public Service

ATTACHMENT 1 TO NL-09-001

**ANALYSIS OF PROPOSED TECHNICAL SPECIFICATION CHANGE
REGARDING BATTERY SURVEILLANCE REQUIREMENT SR 3.8.6.6**

**ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247**

1.0 DESCRIPTION

Entergy Nuclear Operations, Inc (Entergy) is requesting a License Amendment to Operating License DPR-26, Docket No. 50-247 for Indian Point Nuclear Generating Unit No. 2 (IP2). The proposed amendment will establish a more restrictive acceptance criterion for surveillance requirement SR 3.8.6.6 regarding periodic verification of capacity for the affected station batteries.

2.0 PROPOSED CHANGES

The requested amendment will change Technical Specification surveillance requirement SR 3.8.6.6;

FROM:

Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.

TO:

Verify battery capacity is $\geq 85\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.

3.0 BACKGROUND

SR 3.8.6.6 is one of several surveillances which measure performance parameters of the station batteries used in the 125 VDC emergency power system to assure that the affected components are operable. The present form of this surveillance was established in Amendment 238 (Reference 1) for the conversion of IP2 custom technical specifications to the Improved Technical Specifications based on NUREG 1431 Standard Technical Specifications (STS) for Westinghouse plants. In the STS version of SR 3.8.6.6, the value of the acceptance criterion for this surveillance is "[80%]". The value in brackets indicates that the plant-specific value should be inserted. The 80% value was adopted in Amendment 238.

During an engineering review, Entergy determined that the 80% value was non-conservative with respect to the existing design basis calculation for battery capacity under minimum design temperature conditions. The condition was documented in the IP2 Corrective Action Program. Engineering review concluded that the battery capacity acceptance criterion should be changed from $\geq 80\%$ to $\geq 85\%$. A review of the current surveillance test results was performed to verify that the more restrictive acceptance criterion was met and controls have been established in accordance with Administrative Letter 98-10 pending approval and implementation of the technical specification change.

4.0 TECHNICAL ANALYSIS

Battery performance is affected by, among other factors, the environmental temperature in the vicinity of the batteries. The battery capacity calculation for Indian Point 2 assumes a minimum

electrolyte operating temperature of 59°F. The regulatory and design criterion applicable to battery sizing requires that each battery be capable of carrying its expected shutdown loads for a period of 2 hours following a plant trip and a loss of all AC power. The sizing of the Indian Point 2 batteries uses cell size temperature correction factors from IEEE 485-1997 "IEEE Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications". In order to assure that sufficient battery capacity exists at limiting conditions, Entergy has determined that the more restrictive acceptance criterion ($\geq 85\%$ of manufacturer's rating) needs to be implemented for Technical Specification surveillance requirement 3.8.6.6.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

Entergy Nuclear Operations, Inc (Entergy) has evaluated the safety significance of the proposed change to the Indian Point 2 Technical Specifications that revises the surveillance acceptance criterion related to periodic verification of capacity for the affected station batteries. This proposed change has been evaluated according to the criteria of 10 CFR 50.92, "Issuance of Amendment". Entergy has determined that the proposed change does not involve a Significant Hazards Consideration, as discussed below.

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

No. The proposed change revises the acceptance criterion applied to an existing surveillance test for the Indian Point 2 station batteries. Performing a technical specification surveillance test is not an accident initiator and does not increase the probability of an accident occurring. The proposed revision to the test acceptance criterion is based on the design calculation for battery performance at the minimum design temperature. The proposed new value for the test acceptance criteria is more limiting than the existing value which does not account for the minimum environmental design temperature assumed for the limiting battery locations. Establishing a test acceptance criterion that bounds existing or assumed conditions validates the equipment performance assumptions used in the accident mitigation safety analyses. Therefore the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

No. The proposed change revises the test acceptance criterion for an existing technical specification surveillance test conducted on the existing station batteries. The proposed change does not involve installation of new equipment or modification of existing equipment, so that no new equipment failure modes are introduced. Also, the proposed change in test acceptance criterion does not result in a change to the way that the equipment or facility is operated so that no new accident initiators are created. Therefore the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

No. The conduct of performance tests on safety-related plant equipment is a means of assuring that the equipment is capable of performing its intended safety function and therefore maintaining the margin of safety established in the safety analysis for the facility. The proposed change in the acceptance criterion for the battery capacity surveillance test is more conservative and more restrictive than the value currently in the technical specification and is based on the applicable design calculation for these components.

Based on the above, Entergy concludes that the proposed amendment to the Indian Point 2 Technical Specifications presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of 'no significant hazards consideration' is justified.

5.2 Applicable Regulatory Requirements / Criteria

General Design Criterion (GDC) 17; "Electrical Power Systems", requires that onsite electrical power systems have sufficient independence, capacity, capability, redundancy and testability to ensure the (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences, and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents, assuming a single failure.

GDC 18; "Inspection and Testing of Electrical Power Systems", requires that electrical power systems important to safety be designed to permit appropriate periodic inspection and testing to assess the continuity of systems and the conditions of their components.

IP2 Final Safety Analysis Report section 8.1 describes how the requirements of GDC 17 and 18 are met at IP2, including for the safety-related 125 VDC electrical power subsystem, which consists of four separate trains of batteries, battery chargers, and associated power distribution panels. Under normal conditions, each battery charger supplies its DC loads, while maintaining its associated battery at full charge. Each battery provides power to its DC loads when its associated battery charger is not available. Each battery has been sized to carry its expected shutdown loads for a period of 2 hours following a plant trip and a loss of all AC power. All equipment supplied by the batteries is maintained operable with minimum expected voltages at the battery terminals during the 2 hours.

IP2 Technical Specification 3.8.4 and 3.8.5 establish operability requirements for the 125 VDC electrical power subsystem with the plant operating and with the plant shutdown, respectively. IP2 Technical Specification 3.8.6 establishes operability requirements for the batteries using parameters based on IEEE 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications".

Battery performance is limited by, among other factors, the environmental temperature conditions which then affect the operating temperature of the battery electrolyte. The acceptance criterion of $\geq 80\%$ of the manufacturer's rating' for Technical Specification surveillance requirement 3.8.6.6 does not bound the limiting minimum design temperature of 59^oF assumed for the IP2 batteries. The proposed change to establish a more restrictive acceptance criterion of $\geq 85\%$ of the

manufacturer's rating will provide assurance that the applicable regulatory requirements / criteria will be met.

5.3 Environmental Evaluation

The proposed change to the Indian Point 2 Technical Specifications does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with this proposed amendment.

6.0 REFERENCES

1. NRC letter to Entergy; regarding issuance of Amendment 238 for Indian Point Nuclear Generating Unit 2, dated November 21, 2003.

ATTACHMENT 2 TO NL-09-001

**MARKUP OF TECHNICAL SPECIFICATION PAGE FOR PROPOSED CHANGE
REGARDING BATTERY SURVEILLANCE REQUIREMENT SR 3.8.6.6**

Changes indicated by lineout for deletion and **Bold/Italics** for additions

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.6.5 Verify each battery connected cell voltage is ≥ 2.07 V.</p>	<p>92 days</p>
<p>SR 3.8.6.6</p> <p style="text-align: center;">----- - NOTE - -----</p> <p>This Surveillance shall not be performed in MODE 1, 2, 3, or 4. However, credit may be taken for unplanned events that satisfy this SR.</p> <p style="text-align: center;">-----</p> <p>Verify battery capacity is $\geq 805\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>60 months</p> <p><u>AND</u></p> <p>12 months when battery shows degradation, or has reached 85% of the expected life with capacity < 100% of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of the expected life with capacity $\geq 100\%$ of manufacturer's rating</p>