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October 23, 2001  
IPN-01-075

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

Subject: Indian Point Nuclear Generating Unit No. 3  
Docket No. 50-286  
**Proposed Change to Technical Specifications Surveillance  
Requirement Regarding New 31 Station Battery Cell Voltage**

Dear Sir:

This application for amendment to the Indian Point 3 Technical Specifications (TS) proposes to amend TS Surveillance Requirement (SR) 3.8.4.1 regarding new battery terminal voltages to support a 125 VDC Station battery 31 and 32 replacement effort scheduled for early 2002. Since the new 31 Station battery will have an increased number of cells, from 58 to 59, this will result in a higher float voltage for this battery. This new 59-cell battery is needed to meet the design duty cycle for the 31 DC system. Since the number of cells (58) for the new 32 Station battery stays the same, the minimum terminal voltages on float charge remains as prescribed in the existing SR for this battery. Therefore, as SR 3.8.4.1.a is specific in verifying battery terminal voltage on float charge within prescribed limits for both 31 and 32 Station batteries, this TS change becomes necessary because of the replacement of the new 31 Station battery. Further, a change to the appropriate TS 3.8.4 bases indicating the 31 Station battery terminal voltage is also submitted with this TS SR change request for information only.

Enclosed for filing is the signed original of the document entitled "Application for Amendment to the Operating License." Attachment I to this application contains the proposed TS SR change. The TS SR bases change is included for information only. Attachment II is the associated safety evaluation. A markup of the current TS page showing the proposed changes is provided in Attachment III, for information only.

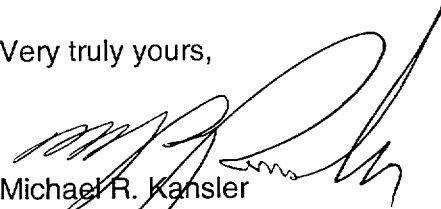
A copy of this letter with the attachments containing the application, proposed changes, safety evaluation and the marked up TS page is being provided to the designated New York State official as required by 10 CFR 50.91.

We respectfully request review and approval of this TS amendment no later than December 28, 2001 in order to support the on-line battery replacement effort for the 31 and 32 station batteries scheduled for early in 1<sup>st</sup> Quarter 2002.

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This submittal contains no new commitments. If you have any questions, please contact Mr. John Donnelly, IP3 Manager of Licensing, at 914-736-8310.

Very truly yours,



Michael R. Kansler  
Senior Vice President and  
Chief Operating Officer

Attachments

cc: Regional Administrator  
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**BEFORE THE UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

In the Matter of	)	
Entergy Nuclear Operations, Inc.	)	Docket No. 50-286
Indian Point Nuclear Generating Unit No. 3	)	

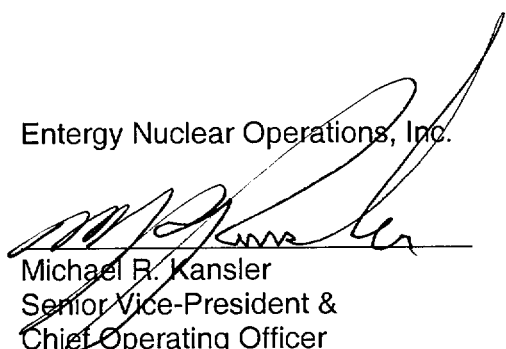
**APPLICATION FOR AMENDMENT TO THE OPERATING LICENSE**

Pursuant to 10 CFR 50.90 of the regulations of the Nuclear Regulatory Commission, Entergy Nuclear Operations, Inc., as holder of Facility Operating License No. DPR-64, hereby applies for an amendment to the Technical Specifications (TS) contained in Appendix A to this operating license.

This application for amendment to the Indian Point 3 TS proposes to revise Surveillance Requirement (SR) 3.8.4.1 to support replacement of Station batteries. This amendment is necessary due to an increase in the number of cells in one of the new batteries (# 31), that causes an overall change in the minimum allowable terminal voltage on float charge requirement verified by the subject SR. This SR change will allow for separate required terminal voltage values for the new 31 and 32 Station batteries, although the 32 Battery required SR terminal voltage will not change as a result of this replacement effort.

The signed original of the Application for Amendment to the Operating License is enclosed for filing. Attachment 1 includes the proposed changes to the TS page. The Safety Evaluation for these changes is provided in Attachment II. A markup of the affected TS page is included in Attachment III for information only.

Entergy Nuclear Operations, Inc.

  
Michael R. Kansler  
Senior Vice-President &  
Chief Operating Officer

**STATE OF NEW YORK  
COUNTY OF WESTCHESTER**

Subscribe and sworn to before me  
this 23<sup>rd</sup> day of October 2001.

  
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Notary Public

**DOREEN COSTABILE**  
Notary Public, State of New York  
Registration No. 01CO5034831  
Qualified in Putnam County  
Commission Expires October 17, 2002

**ATTACHMENT I TO IPN-01-075**

**PROPOSED CHANGES TO TECHNICAL SPECIFICATION 3.8.4  
REGARDING STATION BATTERY SURVEILLANCE REQUIREMENT**

**LIST OF AFFECTED PAGES:**

3.8.4.2  
B 3.8.4-3 (for info only)

**ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT 3 NUCLEAR GENERATING UNIT NO. 3  
DOCKET NO. 50-286  
DPR-64**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.1      Verify battery terminal voltage on float charge is within the following limits:</p> <p>                  a.      <math>\geq 125.7</math> V for battery 31;</p> <p>                  b.      <math>\geq 123.5</math> V for battery 32; and</p> <p>                  c.      <math>\geq 127.8</math> V for batteries 33 and 34.</p>	<p>31 days</p>
<p>SR 3.8.4.2      -----NOTE----- This Surveillance shall not be performed in MODE 1, 2, 3, or 4.* -----</p> <p>Verify each battery charger supplies its associated battery at the voltage and current adequate to demonstrate battery charger capability requirements are met.</p>	<p>24 months</p>
<p>SR 3.8.4.3      -----NOTES----- This Surveillance shall not be performed in MODE 1, 2, 3, or 4. -----</p> <p>Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test or a modified performance discharge test.</p>	<p>24 months</p>

(continued)

\* This battery surveillance may be performed on a one-time only basis during replacement of Station batteries 31 and 32 when the unit is in Mode 1, 2, 3, or 4 in order to support the one-time allowed outage time change of 10 days, as indicated in section 3.8.4.B. This testing shall be done when the battery is disconnected from the DC bus.

## BASES

### BACKGROUND (continued)

The DC power distribution system is described in more detail in Bases for LCO 3.8.9, "Distribution Systems—Operating," and LCO 3.8.10, "Distribution Systems—Shutdown."

Each 125 VDC battery is separately housed in a ventilated room apart from its charger and power panels. Each subsystem is separated electrically from the other subsystems to ensure that a single failure in one subsystem does not cause a failure in a redundant subsystem. There is no sharing between redundant subsystems, such as batteries, battery chargers, or power panels.

The batteries are sized to produce required capacity at 80% of nameplate rating, corresponding to warranted capacity at end of life cycles and the 100% design demand. The voltage limit is 2.13 V per cell, which corresponds to a total minimum voltage output of  $\geq 125.7$  V for battery 31 (consisting of 59 cells),  $\geq 123.5$  V for battery 32 (consisting of 58 cells), and  $\geq 127.8$  V for batteries 33 and 34 (each consisting of 60 cells).

Each DC electrical power subsystem has ample power output capacity for the steady state operation of connected loads required during normal operation, while at the same time maintaining its battery bank charged as necessary to meet the requirements of LCO 3.8.6, Battery Parameters. Each battery charger also has sufficient capacity to restore the battery from the design minimum charge to the required charged state within 15 hours while supplying normal steady state loads discussed in the FSAR, Chapter 8 (Ref. 4).

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### APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the FSAR, Chapter 14 (Ref. 6), assume that Engineered Safety Feature (ESF) systems are OPERABLE. The DC electrical power subsystems 31, 32 and 33 provide normal and emergency DC electrical power for the DGs, and control and switching during all MODES of operation. Each of the four DC electrical power subsystems supports one of the four 120 V AC vital instrument buses via an inverter.

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(continued)

**ATTACHMENT II TO IPN-01-075**

**SAFETY EVALUATION OF THE PROPOSED CHANGES  
TO TECHNICAL SPECIFICATION 3.8.4  
REGARDING STATION BATTERY SURVEILANCE  
REQUIREMENT**

**ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3  
DOCKET NO. 50-286  
DPR-64**

**SAFETY EVALUATION**  
**NEW STATION BATTERY 31 TERMINAL CELL VOLTAGE TS SR CHANGE**

**I. DESCRIPTION OF PROPOSED CHANGES**

This application proposes an amendment to the Indian Point 3 (IP3) Technical Specifications (TS) to revise Surveillance Requirement (SR) 3.8.4.1. This amendment provides a new value for battery terminal voltage on float charge for Station battery 31 due to an expected change out of this battery in early 2002. This new terminal voltage is a result of the new 31 Station battery having 59 cells, as opposed to 58 cells as is current installation. Proposed TS SR 3.8.4.1.a indicates a minimum terminal voltage of 125.7 volts for battery 31, as opposed to a minimum terminal voltage on float charge of 123.5 volts for battery 32. The new 32 Station battery will remain a 58-cell battery and its minimum terminal voltage requirement on float charge SR value will not require change. Additionally, the TS 3.8.4 Bases, page B 3.8.4-3, have also been changed to indicate the new terminal voltage on 31 Battery in relation to a battery sizing discussion in the background information associated with DC sources. This bases change is submitted for clarifying information only. This proposed TS change supports an intended 31 and 32 Station battery replacement effort scheduled for early in the 1<sup>st</sup> Quarter 2002.

**II. PURPOSE OF PROPOSED CHANGE**

Station batteries 31 and 32 are scheduled for replacement no later than May 31, 2002, based upon NRC approval of proposed one-time TS Allowed Outage Time (AOT) extension of up to 10 days to allow replacement of these batteries on-line (see TS Amendment # 208 approved September 19, 2001). The existing 58-cell Station battery 31 will be replaced with a 59-cell battery appropriately sized for the design application. The new battery cells have a slightly lower capacity per cell as compared to the existing cells. The design margin for the new 31 Battery will be 120% with 59 cells. Subsequently, this change to the 59-cell battery 31 results in a new minimum terminal voltage on float charge necessary for this battery to perform as designed. In accordance with IEEE 450-1995 and as documented in IP3-ECCF-845, the minimum allowable battery 31 terminal voltage is established as follows: 59 cells X 2.13 VPC = 125.7V. The new battery manufacturer specifies an allowable cell float voltage range of 2.13 – 2.30 volts per cell, such that 125.7 V is the minimum required terminal voltage that must be verified by performance of TS SR 3.8.4.1.

### **III. SAFETY IMPLICATION OF PROPOSED CHANGES**

Current IP3 TS 3.8.4 SRs require that the station batteries meet several service requirements to verify station battery effectiveness. Verifying battery terminal voltage while on float charge for the station batteries, via SR 3.8.4.1, helps ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. IP3 Electrical Distribution System Change Control Form, IP3-ECCF-845, prepared to evaluate the overall replacement of the 31 and 32 Station batteries, analyzed the changeover of the 31 battery from an existing 58-cell battery to a 59-cell battery. The new battery cells have a slightly lower capacity per cell as compared to the existing cells. To maintain an adequate design margin, an additional cell is being included in the new 31 Battery. The design margin for the new 31 Battery is 120% with 59 cells. The new 32 Battery will have adequate margin as well and its minimum terminal voltage requirement does not change. The installation of these new batteries does not prevent either the 31 or 32 Battery from meeting their necessary design basis duty cycle requirements. The increase in the number of cells for the 31 Battery will result in higher float and equalize battery charger voltages. The minimum allowable battery terminal voltage during float charge requirement is established as follows:

Battery 31	59 cells x 2.13 VPC = 125.7 V
Battery 32	58 cells x 2.13 VPC = 123.5 V

Finally, the TS bases page B 3.8.4-3 is proposed for change based upon making the TS background information discussing battery voltage limits be in uniformity with this TS SR change. This is the only TS bases section that is impacted by the fact that 31 battery will change upon eventual replacement.

### **IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION**

Entergy has evaluated the proposed TS change using the criteria of 10 CFR 50.92 and found that no significant hazards consideration exists for the following reasons:

**1) Does the proposed License Amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

No. The proposed TS SR change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The newly installed battery 31 will consist of 59 cells, instead of the presently installed 58-cell battery. An additional cell will be added to 31 Battery in order to provide an acceptable design margin for future load addition to this battery.

The resulting change in the minimum 31 Battery terminal voltage on float charge to 125.7 V is due to the additional cell added. This new value will ensure that the 31 Battery is properly verified to be functional to meet its design requirements. Calculations demonstrated in IP3-ECCF-845 indicate that 31 Battery DC circuit coordination is not affected by the proposed replacement of the existing battery with a 59-cell battery. The proposed TS SR change does not affect accident initiators or precursors, nor do they alter design assumptions for the systems or components used to mitigate the consequences of an accident as analyzed in Chapter 14 of the IP3 UFSAR.

**2) Does the proposed License Amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

No. This TS SR change for 31 Battery is based upon replacement of the 31 Battery with a new 59-cell battery. This new battery 31 is at least equivalent to the existing 58-cell 31 Battery. This new 31 battery, with the added cell, provides an acceptable design margin to the 31 Battery. Battery 31 circuit coordination is not adversely affected by the addition of this new battery with 59 cells. The proposed changes to this TS SR do not introduce any new accident initiators or precursors, or any new design assumptions for those components used to mitigate the consequences of an accident.

**3) Does the proposed License Amendment involve a significant reduction in a margin of safety?**

No. During the replacement of the existing 31 battery with a new 59-cell battery and the subsequent TS SR change that verifies higher minimum terminal voltage on float charge, the new 31 battery and the requirements associated with verifying its design functionality will not involve a significant reduction in the margin of safety. The replacement 31 Battery is at least equivalent to the existing battery. The additional cell in the proposed new 59-cell battery provides an acceptable design margin, which will be 120% for 31 battery with 59 cells. The increase in the number of cells from 58 to 59 will result in a higher 31 Battery terminal voltage on float charge. This proposed TS SR simply documents the verification of this new minimum voltage value. The minimum terminal voltage value for the new 32 Battery will not change nor be impacted by this TS change. Accordingly, there is no significant reduction in the margin of safety.

Therefore, based upon the above evaluation, Entergy has concluded that this TS SR change involves no significant hazards consideration.

**V. IMPLEMENTATION OF PROPOSED CHANGES**

Entergy has evaluated this proposed TS SR amendment request against the Criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. Entergy has determined that this proposed amendment request meets the eligibility criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

**(i) The amendment involves no significant hazards consideration.**

As demonstrated in Section IV of this Safety Evaluation, the proposed TS change involves no significant hazards consideration.

**(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.**

The proposed change will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents of handling of solid radioactive waste; nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no change in the types or significant increase in the amounts of any effluents released offsite resulting from this TS change.

**(ii) There is no significant increase in individual or cumulative occupational radiation exposure.**

The proposed changes will not result in changes to the operation or configuration of the facility that impact radiation exposure. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of radioactive waste, nor will this TS amendment proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative radiation exposure resulting from this TS SR change.

## **VI. CONCLUSION**

The proposed change to the TS 3.8.4 SR will ensure consistency of verification of the proper minimum voltage needed for the new 59-cell 31 Battery. These changes will not adversely affect normal plant operation and testing. The proposed change does not change the end result of the safety analysis because this new battery is at least equivalent to the replaced battery and the additional cell in the proposed new 31 Battery provides an acceptable design margin of 120% for the new 31 Battery with 59 cells. The new 31 Battery is designed to perform as needed to support existing accident analysis. The new 32 Battery is not impacted by this TS SR change. The Plant Operating Review Committee (PORC) and the Safety Review Committee (SRC) have reviewed this proposed TS SR amendment and have concluded that it does not involve a significant hazards consideration and will not endanger the health and safety of the public.

## **VII. REFERENCES**

1. IP3 Electrical Distribution System Change Control Form (ECCF) – 845, "Evaluate the on-line replacement of Station Battery 31 and Station Battery 32," Rev. 0, dated October 15, 2001.
2. IPN-00-0065, letter to NRC from IP3, "Proposed One -Time Change to Technical Specifications Regarding the Replacement of Station 125VDC Batteries 31 and 32," dated September 7, 2000.
3. IPN-00-093, letter to NRC from IP3, "Proposed On - Line Battery Replacement Allowed Outage Time Technical Specifications Amendment Reply to NRC Request for Additional Information," dated December 29, 2000.
4. IEEE-450-1995, "Recommended Practice for Large Lead Storage Batteries for Generating Stations."

**ATTACHMENT III TO IPN-01-075**

**MARK-UP OF TECHNICAL SPECIFICATION PAGES  
FOR PROPOSED CHANGES TO TECHNICAL SPECIFICATION 3.8.4  
REGARDING STATION BATTERY SURVEILLANCE REQUIREMENT**

**ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3  
DOCKET NO. 50-286  
DPR-64**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.1      Verify battery terminal voltage on float charge is within the following limits:</p> <p>                  <del>a. &gt;123.5 V for batteries 31 and 32; and</del></p> <p>                  a.    <math>\geq 125.7</math> V for battery 31;</p> <p>                  b.    <math>\geq 123.5</math> for battery 32; and</p> <p>                  c.    <math>\geq 127.8</math> V for batteries 33 and 34.</p>	<p>31 days</p>
<p>SR 3.8.4.2      .....NOTE.....</p> <p>                  This Surveillance shall not be performed in                   MODE 1, 2, 3, or 4.*</p> <p>                  .....</p> <p>                  Verify each battery charger supplies its                   associated battery at the voltage and current                   adequate to demonstrate battery charger                   capability requirements are met.</p>	<p>24 months</p>
<p>SR 3.8.4.3      .....NOTES.....</p> <p>                  This Surveillance shall not be performed in                   MODE 1, 2, 3, or 4.</p> <p>                  .....</p> <p>                  Verify battery capacity is adequate to supply,                   and maintain in OPERABLE status, the required                   emergency loads for the design duty cycle when                   subjected to a battery service test or a                   modified performance discharge test.</p>	<p>24 months</p>

(continued)

\* This battery surveillance may be performed on a one-time only basis during replacement of Station batteries 31 and 32 when the unit is in Mode 1, 2, 3, or 4 in order to support the one-time allowed outage time change of 10 days, as indicated in section 3.8.4.B. This testing shall be done when the battery is disconnected from the DC bus.