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Fred Dacimo
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April 22, 2004

Indian Point Units 2 and 3
Docket Nos. 50-247 & 50-286
NL-05-053

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

Subject: Proposed Change to Technical Specifications Regarding Trip
Actuating Device Surveillance Requirements for Setpoint Verification

Dear Sir:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (Entergy) hereby requests an amendment to the Operating License and the Technical Specifications (TS) contained in Appendix A for Indian Point Units 2 and 3. The proposed amendment adds "Note: Verification of setpoint is not required" to Unit 2 Surveillance Requirement (SR) 3.3.5.2 for the 480 V bus degraded voltage function and Unit 3 SR 3.3.5.1 for the 480 V degraded voltage and under voltage functions.

The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1) using the criteria of 10 CFR 50.92(c) and Entergy has determined that these proposed changes involve no significant hazards considerations (Attachment I) The proposed changes to the TS are provided in Attachment II. Planned Bases changes are in Attachment III for information.

In accordance with 10 CFR 50.91, a copy of this application and the associated attachments are being submitted to the designated New York State official.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Patric W. Conroy at (914) 734-6668.

AD001

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 22, 2005.

Sincerely,



Fred R. Dacimo
Site Vice President
Indian Point Energy Center

cc:

Mr. Patrick D. Milano, Senior Project
Manager
Project Directorate I,
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Resident Inspector's Office
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Mr. Paul Eddy
New York State Dept. of Public Service

ATTACHMENT I TO NL-05-053

**ANALYSIS OF PROPOSED LICENSE AMENDMENT REQUEST
AND TECHNICAL SPECIFICATION CHANGE REGARDING
DIESEL GENERATOR START INSTRUMENTATION**

**ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT 2 AND 3 NUCLEAR POWER PLANTS
DOCKET NOS. 50-247 AND 50-286
DPR-26 AND 64**

1.0 DESCRIPTION

This is a request to amend Operating License DPR-26, Docket 247, for Indian Point Unit 2 (IP2) and Operating License DPR-64, Docket 286, for Indian Point Unit 3 (IP3). The proposed amendment adds "Note Verification of setpoint is not required" to Unit 2 Surveillance Requirement (SR) 3.3.5.2 for the 480 V bus degraded voltage function and Unit 3 SR 3.3.5.1 for the 480 V degraded voltage and under voltage functions.

2.0 PROPOSED CHANGES

Add the following note to IP2 Technical Specification 3.3.5, Surveillance Requirement 3.3.5.2 and to IP3 Technical Specification 3.3.5, Surveillance Requirement 3.3.5.1:

-----NOTE-----
Verification of setpoint not required

3.0 TECHNICAL ANALYSIS

This License Amendment request is intended to correct a non-conservative TS surveillance requirement at the two units. The current Surveillance Requirement (SR) 3.3.5.2 for IP2 requires a trip actuating device operational test (TADOT) to be performed every 31 days on the 480 V bus degraded voltage function. The current Surveillance Requirement 3.3.5.1 for IP3 requires a TADOT to be performed every 31 days on the 480 V bus degraded voltage and undervoltage functions. A TADOT requires adjustment of the trip actuating device to within the required setpoint. Measuring the setpoints of the undervoltage and degraded voltage relays requires removal of the relays for bench testing.

At IP2 and IP3, the 480 Volt Bus degraded voltage is sensed by two (2) degraded voltage relays per bus (buses 2A, 3A, 5A, and 6A). A trip signal requires both degraded voltage relays to sense the degraded voltage condition. The IP2 and IP3 degraded voltage relays are set per SR 3.3.5.5 and 3.3.5.2, respectively. Once both relays are tripped either one or both time delay relays will energize and start timing (one time delay relay is for degraded grid and is set at a longer time and the other is for a degraded grid with SI and is set at a shorter time). Once the time delay relay times out a contact is closed that will trip the respective bus supply breaker which in turn actuates the undervoltage circuit. The removal of a degraded voltage relay for bench testing will make the circuit inoperable and the associated diesel generator inoperable.

At IP3, the 480 Volt Bus undervoltage is sensed by two (2) undervoltage relays per bus (bus 2A, 3A, 5A or 6A). A trip signal requires either undervoltage relay to sense the under voltage condition. There are no time delay relays. Actuation of either relay actuates the logic to trip the respective bus supply breaker, initiate load shedding, start the associated diesel generator, and initiate load sequencing based on SI or non SI conditions. The removal of an undervoltage relay for bench testing will make the circuit less reliable since a single failure would make the associated diesel generator inoperable.

The relays used to sense 480 Volt Bus degraded and undervoltage conditions are stable and not subject to drift that would warrant a setpoint verification every 31 days. The setpoint verification is performed during the channel calibration required by SR 3.3.5.5 at IP2 and SR 3.3.5.2 at IP3. These calibrations are performed on a test frequency of either 18 or 24 months. The channel calibration is a complete check of the instrument loop, including the sensor, and verifies that the sensor responds within the necessary range and accuracy. The frequency of calibration is based on operating experience, and consistency with industry practice. The calibration results for 128 surveillances at IP2 and IP3 were reviewed and the as

found conditions met acceptance criteria in 125 of the surveillance tests. This experience indicates that the relays are reliable for the proposed setpoint verification intervals. The industry practice is found in the requirements of NUREG 1431, Revision 3, which contain a note saying "Verification of setpoint is not required" for a number of TADOT surveillance requirements (i.e., SR 3.3.1.9, 3.3.1.14, 3.3.2.7, 3.3.2.11, 3.3.6.8, 3.3.7.8, and 3.3.8.4) including Auxiliary Feedwater actuation on loss of offsite power.

4.0 REGULATORY ANALYSIS

4.1 No Significant Hazards Consideration Determination

Entergy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by assessing the change using the three criteria of 10 CFR 50.92 as discussed below:

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

Response – No

The proposed change adds a note to indicate that the IP2 and IP3 degraded voltage relays and the IP3 undervoltage relays do not require setpoint verification when the TADOT required by TS surveillances is performed on a monthly basis. Setpoint verification of these relays occurs as part of the channel calibration that is performed at either an 18 month or a 24 month frequency. These relays are used to sense either degraded voltage or undervoltage on the 480 volt safety related buses and to initiate the start of the EDG for all events where the loss of offsite power is postulated. This function has no effect on the probability of an accident previously evaluated since it is not associated with the initiation of any accident. The relay setpoint verification frequency of 18 or 24 months has no significant effect on the consequences of an accident because the relays are intended to be calibrated on this frequency. This frequency of calibration is based on operating experience, and is consistent with industry practice. 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?

Response – No

The proposed change adds a note to indicate that the IP2 and IP3 degraded voltage relays and the IP3 undervoltage relays do not require setpoint verification when the TADOT required by TS surveillances is performed on a monthly basis. This effectively changes the frequency required by the surveillance requirement from 31 days to either 18 months or 24 months. The change does not affect the function of the relays or otherwise affect the design and operation of plant systems and components and therefore no new accident scenarios would be created. The change does not affect the manner in which equipment is operated but does affect the manner in which it is maintained by extending the frequency for setpoint

verification. The frequency change continues to provide adequate verification of the operability of equipment and limits the time which the relay function is inoperable or degraded while performing verification. Therefore, no new failure modes are being introduced that could lead to different accidents.

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

Response – No

The proposed change adds a note to indicate that the IP2 and IP3 degraded voltage relays and the IP3 undervoltage relays do not require setpoint verification when the TADOT required by TS surveillances is performed on a monthly basis. Setpoint verification of these relays occurs as part of the channel calibration that is performed at either an 18 month or a 24 month frequency. The margin associated with these relays is the assurance that these relays will properly sense either degraded voltage or undervoltage on the 480 volt safety related buses and to initiate the start of the EDG for all events where the loss of offsite power is postulated. The proposed frequency of calibration is based on operating experience, and is consistent with industry practice. These indicate that setpoint verification at 18 month or 24 month is adequate to assure performance of the function. Verification of setpoints on a monthly basis either degrades the reliability of the function or makes it inoperable. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

NRC Administrative Letter 98-10 requires non-conservative Technical Specification requirements to be treated as a nonconforming condition under Generic Letter 91-18 with administrative controls (i.e., the clarification in this Basis) in place until a change to the Technical Specifications is processed.

4.2 Applicable Regulatory Requirements / Criteria

The proposed changes have been evaluated to determine compliance with applicable regulatory requirements.

GDC 13 requires instrumentation to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety. GDC 13 requires appropriate controls to maintain these variables and systems within prescribed operating ranges. The proposed change continues to provide the required controls.

4.3 Environmental Considerations

The proposed changes in this license amendment, including the related changes to the plant technical specifications do 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 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 the proposed amendment.

5.0 PRECEDENCE

The Technical Specifications for Commanche Peak Units 1 and 2 (Dockets 50-445 and 446) and North Anna Units 1 and 2 (Docket 50-338 and 339) contain a SR requiring a TADOT of the Loss of Offsite Power (LOP) EDG start instrumentation. Each SR contains a note that says "Verification of setpoints is not required."

- Commanche Peak TS 3.3.5, SR 3.3.5.2 requires that the TADOT is to be performed prior to entering MODE 4 when in MODE 5 for > 72 hours and if not performed in previous 92 days and includes a note that says setpoint verification is not applicable. SR 3.3.5.3 requires a channel calibration to be performed every 18 months. The Bases for SR 3.3.5.3, channel calibration, indicates that it is the calibration that is dependent upon to verify setpoint accuracy. It says "CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. The Frequency of 18 months is based on operating experience and consistency with the typical industry refueling cycle and is justified by the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis."
- North Anna TS 3.3.5, SR 3.3.5.1 requires the TADOT every 92 days and includes a note that says setpoint verification is not applicable. SR 3.3.5.3 requires a channel calibration to be performed every 18 months. The TS Bases for 3.3.5.1 says "A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at an 18 month frequency with applicable extensions. This test is performed every 92 days. The test checks trip devices that provide actuation signals directly, bypassing the analog process control equipment. The SR is modified by a Note that excludes verification of setpoints from the TADOT. Since this SR applies to the loss of voltage and degraded voltage relays for the 4160 VAC emergency buses, setpoint verification requires elaborate bench calibration and is accomplished during the CHANNEL CALIBRATION. Each train or logic channel shall be functionally tested up to and including input coil continuity testing of the ESF slave relay. The frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through operating experience."

ATTACHMENT II TO IPN-05-053

**MARK UP OF EXISTING TECHNICAL SPECIFICATION
PAGES TO SHOW THE PROPOSED CHANGE**

**ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT 2 AND 3 NUCLEAR POWER PLANTS
DOCKET NOS. 50-247 AND 50-286
DPR-26 AND 64**

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	Perform CHANNEL CHECK of the 480 V bus Degraded Voltage Function.	12 hours
	Insert 1	31 days
SR 3.3.5.2	Perform TADOT of the 480 V bus Degraded Voltage Function.	
SR 3.3.5.3	Perform TADOT of each of the following: a. 480 V bus Undervoltage Function; and b. 480 V bus SBO Function.	24 months
SR 3.3.5.4	Perform ACTUATION LOGIC TEST of each of the following: a. 480 V bus Undervoltage Function; and b. 480 V bus SBO Function.	24 months
SR 3.3.5.5	Perform CHANNEL CALIBRATION with Allowable Values as follows: a. 480 V bus Undervoltage Function Allowable Value: ≥ 206.6 V with a time delay ≤ 3.7 seconds. b. 480 V bus Degraded Voltage Function Allowable Value: ≥ 419 V and ≤ 423 V with time delays as follows: i. ≥ 153 seconds and ≤ 207 seconds (No SI Signal); and ii. ≥ 8.4 seconds and ≤ 11.4 seconds (Coincident SI). c. 480 V bus SBO Function Allowable Value: ≥ 198.6 V.	24 months

Insert 1

-----NOTE-----
Verification of setpoint not required

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time not met.</p> <p><u>OR</u></p> <p>Two channels of Degraded Voltage Function inoperable in one or more buses.</p>	<p>C.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
Insert 1		
SR 3.3.5.1	Perform TADOT.	31 days
SR 3.3.5.2	<p>Perform CHANNEL CALIBRATION with Allowable Value as follows:</p> <p>a. Undervoltage (480 V bus) Relay Allowable Value ≥ 200 V.</p> <p>b. Degraded Voltage (480 V bus) Relay (Non-SI) Allowable Value ≥ 414 V with a time delay ≤ 45 seconds.</p> <p>c. Degraded Voltage (480 V bus) Relay (Coincident SI) Allowable Value ≥ 414 V with a time delay ≤ 10 seconds.</p>	<p>24 months</p> <p>18 months</p> <p>18 months</p>

Insert 1

-----NOTE-----
Verification of setpoint not required

ATTACHMENT III TO IPN-05-053

**MARK UP OF EXISTING TECHNICAL SPECIFICATION
BASES PAGES TO SHOW THE PROPOSED CHANGE
(FOR INFORMATION ONLY)**

**ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT 2 AND 3 NUCLEAR POWER PLANTS
DOCKET NOS. 50-247 AND 50-286
DPR-26 AND 64**

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.5.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.3.5.2 and SR 3.3.5.3

SR 3.3.5.2 and SR 3.3.5.3 require performance of TADOTs. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable TADOT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. This test is performed every 31 days for the 480 V bus Degraded Voltage Function and every 24 months for the 480 V bus undervoltage function and the 480 V SBO function. The test checks trip devices that provide actuation signals directly, bypassing the analog process control equipment. For these tests, the SBO, undervoltage and degraded voltage relay trip setpoints are not verified (the degraded voltage time delay relay setpoints are verified and adjusted as necessary). The TADOT does not perform the setpoint verification for undervoltage and SBO as part of the test since the CALIBRATION is performed on the same frequency and that test is credited for accomplishing this. ~~This~~ SR 3.3.5.2 is

BASES

SURVEILLANCE REQUIREMENTS (continued)

modified by a note that excludes verification of degraded voltage setpoints from the

TADOT. Since this TADOT applies to 480 V degraded voltage, setpoint verification requires bench calibration and is accomplished during CHANNEL CALIBRATION. Although the SR is not modified by a note, this is a non-conservative SR whose intent was never to require pulling relays for bench testing. The 480 Volt Bus degraded voltage is sensed by two (2) undervoltage relays per bus. A trip signal requires both relays to sense the degraded voltage condition so pulling a relay reduces the system reliability. NRC Administrative Letter 98-10 requires non-conservative Technical Specification requirements to be treated as a nonconforming condition under Generic Letter 91-18 with administrative controls (i.e., the clarification in this Basis) in place until a change to the Technical Specifications is processed. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

SR 3.3.5.4

SR 3.3.5.4 is the performance of an ACTUATION LOGIC TEST for the 480 V function and 480 V undervoltage function. This test is performed every 24 months which is consistent with the plant conditions needed to perform the test. This Test is performed in conjunction with the testing of LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Function 6.d, Auxiliary Feedwater - Station Blackout. The Surveillance interval is acceptable based on instrument reliability and operating experience.

SR 3.3.5.5

SR 3.3.5.5 is the performance of a CHANNEL CALIBRATION.

The setpoints, as well as the response to a loss of voltage and a degraded voltage test, shall include a single point verification that the trip occurs within the required time delay.

A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Frequency of 24 months is based on operating experience and consistency with the typical industry refueling cycle and is justified by the assumption of an 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

REFERENCES

1. UFSAR, Section 7,8 and 14.
 2. Indian Point 2 Specification FIX-95-A-001, Guidelines For Preparation Of Instrument Loop Accuracy And Setpoint Determination Calculation.
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BASES

ACTIONS
(continued)

C.1

Condition C applies to each of the LOP DG start Functions when the Required Action and associated Completion Time for Condition A or B are not met. Condition C also applies when two channels of Degraded Voltage Function inoperable in one or more buses. In this Condition, Function trip capability is lost even if one of the channels is placed in trip as specified in Required Action B.1.

In these circumstances the Conditions specified in LCO 3.8.1, "AC Sources-Operating," or LCO 3.8.2, "AC Sources-Shutdown," for the DG made inoperable by failure of the LOP DG start instrumentation are required to be entered immediately. The actions of those LCOs provide for adequate compensatory actions to assure unit safety.

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1

SR 3.3.5.1 is the performance of a TADOT. This test is performed every 31 days. The test checks trip devices that provide actuation signals directly, bypassing the analog process control equipment. The Frequency is based on the known reliability of the relays and controls and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

This SR is modified by a note that excludes verification of setpoints from the TADOT (the degraded voltage time delay relay setpoints are verified and adjusted as necessary). Since this TADOT applies to 480 v degraded voltage and undervoltage, setpoint verification requires bench calibration and is accomplished during CHANNEL CALIBRATION. The Frequency is based on the known reliability of the relays and industry practice. ~~Although the SR is not modified by a note, this is a non-conservative SR whose intent was never to require pulling relays for bench testing. The 480 Volt Bus degraded voltage is sensed by two (2) undervoltage relays per bus. A trip signal requires both relays to sense the degraded voltage condition so pulling a relay makes a EDGs inoperable. NRC Administrative Letter 98-10 requires non-conservative Technical Specification requirements to be treated as a nonconforming condition under Generic Letter 91-18 with administrative controls (i.e., the clarification in this Basis) in place until a change to the Technical Specifications is processed.~~

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.5.2

SR 3.3.5.2 is the performance of a CHANNEL CALIBRATION.

The setpoints, as well as the response to a loss of voltage and a degraded voltage test, shall include a single point verification that the trip occurs within the required time delay, as applicable.

A CHANNEL CALIBRATION is performed every 24 months for the undervoltage relay and every 18 months for the degraded voltage relay. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

The Frequency is based on operating experience and is justified by the assumption of the calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis (Ref. 3).

REFERENCES

1. FSAR, Section 8.2.
 2. FSAR, Chapter 14.2.
 3. Engineering Standards Manual IES-3 and IES-3B, Instrument Loop Accuracy and Setpoint Calculation Methodology (IP3).
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