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April 13, 2001

Re: Indian Point Unit No. 2  
Docket No. 50-247  
LER 2001-002-00  
NL-01-042

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop PI-137  
Washington, DC 20555-001

The attached Licensee Event Report 2001-002-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

There are no commitments contained in this letter.

Sincerely,



Attachment

cc: Mr. Hubert J. Miller  
Regional Administrator - Region I  
US Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Patrick D. Milano, Senior Project Manager  
Project Directorate I  
Division of Licensing Project Management  
US Nuclear Regulatory Commission  
Mail Stop O-8-C2  
Washington, DC 20555

Senior Resident Inspector  
US Nuclear Regulatory Commission  
PO Box 38  
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**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>FACILITY NAME (1)</b> Indian Point, Unit 2	<b>DOCKET NUMBER (2)</b> 05000247	<b>PAGE (3)</b> 1 OF 4
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**TITLE (4)**  
Personnel Error Results in Loss of 480V Bus and Automatic Start of Emergency Diesel Generators

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIA L NUMBER	REVISIO N NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	14	2001	2001	-002-	00	04	13	2001		05000
									FACILITY NAME	DOCKET NUMBER
										05000

<b>OPERATING MODE (9)</b> N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>			
<b>POWER LEVEL (10)</b> 100	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
	20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
	20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
	20.2203(a)(2)(ii)	20.2203(a)(4)	X 50.73(a)(2)(iv)	OTHER -
	20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b> Richard Louie, Licensing Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> (914) 734-5678
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURE R	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO						

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

On February 14, 2001, at about 0150 hours, during surveillance testing of 480 volt Bus 3A undervoltage relays, with the reactor at 100 percent power, 480-volt Bus 3A was lost. This resulted in the automatic start of all three emergency diesel generators; and is a reportable system actuation per 50.73(a)(2)(iv)(B)(8). A technician performing the test was required by procedure to simultaneously hold a switch in the bypass position while two test buttons were pressed. The switch was not held in as required by procedure. This resulted in loss of Bus 3A, placing the plant in a shutdown action statement of Technical Specification 3.0.1. Limiting Conditions for Operation (LCO) was entered for the de-energized Engineered Safety Features (ESF) equipment. Power was restored within 25 minutes (0215 hours), satisfying the Technical Specification 3.0.1 action statement. At 0219 hours, all ESF equipment powered by Bus 3A was returned to AUTO and all LCOs exited. All equipment functioned as designed in response to the loss of Bus 3A. With the successful start of the emergency diesel generators, and the prompt return of power to Bus 3A, there were no adverse safety implications to the public associated with the event. There was no injury to plant personnel or damage to equipment. In accordance with 10CFR50.72(b)(3)(iv), the NRC was notified of this event at 0251 hours on February 14, 2001.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENT IAL NUMBER	REVISION NUMBE	
Indian Point, Unit 2	05000247	2001	-002-	00	2 OF 4

**TEXT** (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT AND SYSTEM IDENTIFICATION

Westinghouse 4-Loop Pressurized Water Reactor

EVENT IDENTIFICATION

Personnel Error Results in Loss of 480V Bus and Automatic Start of Emergency Diesel Generators

EVENT DATE

February 14, 2001

REFERENCES

Condition Reporting System Number(s): 200101617, 200101621, 200101646

PAST SIMILAR EVENTS

None

EVENT DESCRIPTION

On February 14, 2001, at about 0150 hours, during surveillance testing of 480 volt Bus 3A, and with the reactor at 100 percent power, 480-volt Bus 3A was lost due to the trip of Breaker 52/3A. A technician performing the test was required by procedure PT-M48 to simultaneously hold a switch in the bypass position while two test buttons are pressed. The switch was not held in the correct position. As a result, an undervoltage signal was inserted on the bus when the test button was pushed. This resulted in the loss of Bus 3A, automatic start of all three emergency diesel generators (as designed), and the loss of loads that were powered by Bus 3A. This is a reportable system actuation as listed in 10CFR50.73(a)(2)(iv)(B)(8). The loss of Bus 3A placed the plant in a shutdown action statement of Technical Specification (TS) 3.0.1. However, the operators failed to enter the 72-hour Limiting Condition for Operation (LCO) per TS Table 3.5-3, item 3.b, column 5, regarding the inoperable undervoltage relays during the conduct of surveillance test PT-M48. Abnormal Operating Instruction (AOI) 27.1.13, "Loss of a 480V Bus" was entered to re-energize the bus. In addition, Limiting Conditions for Operation (LCOs) were entered for the de-energized Engineered Safety Features (ESF) equipment, including the 21 Auxiliary Boiler Feedwater Pump, 22 Service Water Pump, 22 Safety Injection System Pump, and the 21 Residual Heat Removal Pump. Power was restored within 25 minutes (0215 hours), satisfying the Technical Specification 3.0.1 action statement. At 0219 hours, all ESF equipment powered by Bus 3A was returned to AUTO and all LCOs were exited.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENT IAL NUMBER	REVISI ON NUMB	
Indian Point, Unit 2	05000247	2001	-002	00	3 OF 4

**TEXT** (If more space is required, use additional copies of NRC Form 366A) (17)

EVENT DESCRIPTION (Continued)

All equipment functioned as designed in response to the loss of the 480-volt bus. One anomalous condition noted during the event was that the crankcase exhauster for Emergency Diesel Generator 22 had to be manually started. With the successful start of the emergency diesel generators, and the prompt return of power to the bus, there were no adverse safety implications to the public associated with the event. There was no injury to plant personnel or damage to plant equipment. In accordance with 10CFR50.72(b)(3)(iv), the NRC was notified of this event at 0251 hours on February 14, 2001.

EVENT ANALYSIS

Two Instrumentation and Control (I&C) technicians had been assigned to perform the 480-volt undervoltage alarm test on Bus 3A. Prior to performance of the test, the Control Room Supervisor, Reactor Operator, and I&C technicians discussed the 480-volt undervoltage alarm test, and "touch-the-tag" during the performance of the test. The Control Room part of the test was completed without incident. The technicians then proceeded to the 480-volt switchgear room to complete the remainder of the test. The test procedure required that the "UV Test" switch (spring return) be held in the "test" position during several test steps. That particular switch was not held in the "test" position as required by the procedure, resulting in a trip of the breaker feeding the bus under test and the autostart of the emergency diesel generators.

Interviews were conducted of the technicians performing the surveillance test, I&C personnel and Operations personnel. A barrier analysis was performed. It was determined that human error was directly responsible for the bus trip. The root cause was attributed primarily to the following:

- The pre-job briefing emphasized the Control Room aspects of the test rather than the switchgear room portion of the test, and the I&C technicians were not being properly engaged (queried) during the briefing.
- The technicians did not read verbatim from the test procedure, although that is the expected method.
- Three point communications were not utilized, although that is the expected method.

Other contributing factors included: overconfidence by the senior technician with respect to performing the test, a walk/talk-through was not conducted prior to executing the 480-volt bus section of the test, one technician had never performed the test, confusing nomenclature in the test procedure, the switches were not functionally labeled, and the format of the test procedure used had not been updated to current station standards.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENT IAL NUMBER	REVISI ON NUMB	
Indian Point, Unit 2	05000247	2001	-002	00	4 OF 4

**TEXT** (If more space is required, use additional copies of NRC Form 366A) (17)

EVENT SAFETY SIGNIFICANCE

This event resulted in an unnecessary challenge to plant safety systems (i.e., start of the emergency diesel generators), the temporary loss of power to certain engineered safety features equipment, and entry into a Technical Specification shutdown action statement. The 480-volt system, however, is designed to provide three independent power trains to supply safeguard system equipment such that in the event of design basis accidents occurring coincident with loss of offsite power, reliable power sources will be available to ensure safe shutdown of the plant. The effect on operation of the plant (other than the loss of the Bus 3A) was the momentary loss of the Group 21 Backup Pressurizer Heaters, which resulted in a small decrease in primary system pressure. The pressure was restored to normal by energizing Group 22 Backup Pressurizer Heaters.

CORRECTIVE ACTIONS

The corrective actions included the following:

- On February 16, 2001, the I&C department conducted a stand-down to specifically discuss this event. In addition, a plant-wide human performance stand-down was conducted for station personnel during the week of March 1 through March 8, 2001. The purpose of this stand-down was to 1) assess the human performance aspects of this event, and 2) to refocus personnel on expectations for operational performance and personnel accountability.
- Labeling for the undervoltage test by-pass switches was added to ensure components are easily identifiable.
- Test & Performance Procedure PT-M48, "480 Volt Undervoltage Alarm" was revised to include additional information for the technician regarding specifically how to perform the undervoltage test.
- The Control Room Supervisor's database was updated to include the requirement to enter the 72-hour Limiting LCO per TS Table 3.5-3, item 3.b, column 5.