Entergy

Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc
Indian Point Energy Center
295 Broadway, Suite 1
PO Box 249
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September 17, 2002

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 2002-003-00
NL-02-121

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

Dear Sir:

The attached Licensee Event Report 2002-003-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

There are no commitments contained in this letter.

Sincerely,

Fred Dacimo
Vice President - Operations
Indian Point 2

Attachment

cc: Mr. Hubert J. Miller
Regional Administrator - Region I
U.S. 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
U.S. Nuclear Regulatory Commission
Mail Stop O-8-C2
Washington, DC 20555

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
PO Box 38
Buchanan, NY 10511

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)

138 KV Ground Protection Trip Results in Auto Start of Emergency Diesel Generators

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	19	2002	2002	-003-	00	09	17	2002		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	N
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	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)	X	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)

NAME	TELEPHONE NUMBER (Include Area Code)
Richard Louie, Licensing Engineer	(914) 734-5678

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	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 July 19, 2002, at approximately 1413 hours, a loss of the Indian Point Unit 2 Buchanan 138-kV offsite power source [EIIS:FK] occurred due to the actuation of ground protection controls for the 138/6.9-kV station auxiliary transformer. This 138-kV source is the preferred offsite supply to 6.9-kV Buses 5 and 6. As a result, engineered safety feature (ESF) 480-V Buses 5A and 6A and associated required safeguards equipment became de-energized. Per Technical Specification 3.7.B.3, plant operation may continue for 24 hours if the entire 138-kV source of power is lost provided all three (3) emergency diesel generators (EDG) (EIIS:EK] are operable. As designed, all three EDGs received an automatic start signal. However prior to this, 21 EDG had been declared inoperable in preparation for maintenance activities. At 1429 hours, operations personnel restored 21 EDG to operable status and re-energized Buses 5A and 6A by closing the output breakers from 21 and 23 EDGs. This report is submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in a manual or automatic actuation of an emergency AC electric power system. At the time of the event, the plant was at 100 percent power. No damage to any equipment, or adverse safety implications to the public occurred as a result of this event. A contract worker fatality occurred as a result of the grounding of a conductor on the 138-kV feeder.

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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

138 KV Ground Protection Trip Results in Auto Start of Emergency Diesel Generators

EVENT DATE

July 19, 2002

REFERENCES

Condition Reporting System Number: 200207157

PAST SIMILAR EVENTS

LER 2001-007-00, 2001-002-00, 2001-001-00

EVENT DESCRIPTION

On July 19, 2002 at approximately 1413 hours, with the plant operating at 100 percent steady state power, a loss of the Indian Point Unit 2 Buchanan 138-kV offsite power source occurred due to the actuation of ground protection controls for the 138/6.9-kV station auxiliary transformer. This 138-kV source is the preferred offsite supply to 6.9-kV Buses 5 and 6. As a result at 1414 hours, engineered safety feature (ESF) 480-V Buses 5A and 6A and associated required safeguards equipment became de-energized. Abnormal Operating Instruction (AOI) 27.1.1, "Loss of Normal Station Power," Revision 15 was entered. With Buses 5A and 6A de-energized, 21, 23, 24, and 26 service water (SW) pumps became de-energized. This reduced the cooling water supply to both the essential and non-essential service water headers. However, because 480-V Buses 2A and 3A were unaffected by the loss of 138-kV offsite power source, 25 SW pump remained energized providing cooling on the essential service water header. Per Technical Specification 3.7.B.3, plant operation may continue for 24 hours if the entire 138-kV source of power is lost provided all three (3) emergency diesel generators (EDG) are operable. As designed, all three EDGs received an automatic start signal. However prior to this, 21 EDG had been declared inoperable in preparation for maintenance activities. At 1429 hours, operations personnel restored 21 EDG to operable status and re-energized Buses 5A and 6A by closing the output breakers from 21 and 23 EDGs. Once these EDGs were available, 22 SW pump was started to support operation on the non-essential service water header.

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

EVENT DESCRIPTION (Continued)

In accordance with AOI 27.1.1 operations personnel proceeded with the restoration of plant systems. At 2107 hours, the 138-kV feed to the station auxiliary transformer was restored. At 2243 hours, the limiting condition for operation (LCO) for Technical Specification 3.7.B.3 was exited. There were no inoperable structures, components, or systems, which contributed to the initiation of this event. Although 21 EDG had been declared inoperable prior to the event, this did not contribute directly to the loss of the 138-kV offsite power source.

EVENT ANALYSIS

This event was initiated by the actuation of ground protection controls for the 138/6.9-kV station auxiliary transformer. A fallen tree branch caused the grounding of the C-phase conductor on the station auxiliary transformer. This immediately resulted in the loss of the 138-kV offsite power source, the preferred supply to 6.9-kV Buses 5 and 6. A contract worker was electrocuted while trimming trees adjacent to the 138-kV feeder to the station auxiliary transformer. The worker had not been authorized to perform work in this specific area. Furthermore, the worker did not notify supervision of his intent to perform work in the area. This event was determined to be a human performance-related error. Contrary to existing station procedures, training, and management's expectations, a contract worker fatality occurred while performing unauthorized work activities.

In responding to this event Abnormal Operating Instruction (AOI) 27.1.1, "Loss of Normal Station Power," Revision 15 was entered. Prior to loading the EDGs onto their respective 480-V buses, AOI 27.1.1 requires operators to verify at least one SW pump on the essential header, component cooling water pump, and charging pump are running. After these items were verified, operations personnel re-energized Buses 5A and 6A by closing the output breakers from 21 and 23 EDGs. Once this was completed, 22 SW pump was started and other plant systems were restored in accordance with AOI 27.1.1

A post-event review indicates that the plant's response to the loss of the 138/6.9-kV station auxiliary transformer was per plant design. Timely operator response resulted in minimizing the amount of time that 480-V Buses 5A and 6A were de-energized. However, the need for improvement in the areas of procedure implementation, Technical Specification implementation, and control room log keeping were recognized.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(iv) (A) as an event or condition that resulted in a manual or automatic actuation of an emergency AC electric power system.

Pursuant to 10 CFR 50.72 (b)(3)(iv)(A), an eight-hour report was made to the NRC on July 19, 2002 at 1515 hours (Event Number 39074).

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

EVENT SAFETY SIGNIFICANCE

Industrial Safety

This event adversely affected industrial safety. While performing unauthorized work activities, a contract worker fatality occurred. Due to the hazards associated with the station auxiliary transformer's location, the potential for additional injuries existed during the rescue efforts. Because of the controls put in place during the event, this potential was minimized.

Radiological Safety

There were no direct or potential radiological safety implications from this event.

Nuclear Safety

A post-event review indicates that the plant's response to the loss of the 138/6.9-kV station auxiliary transformer was per plant design. Power to the auxiliaries on 6.9-kV Buses 5 and 6 during "on line" plant operation is supplied by the station auxiliary transformer from the Buchanan 138-kV offsite power feeder. The loss of the station auxiliary transformer resulted in ESF 480-V Buses 5A and 6A and associated required safeguards equipment becoming de-energized. During the time period (approximately 16 minutes) when these buses were de-energized, the daily risk factor (DRF) was RED at 321 (RED status). Once buses 5A and 6A were re-energized by their associated emergency diesel generators, the DRF lowered to 197.7 (RED status). The RED status indicates that core damage frequency has increased above 1.0E-3. Plant operation with a core damage frequency greater than 1.0E-3 is not normally permitted unless authorized by the Senior Vice President. For this event, plant risk status was returned to GREEN when the station auxiliary transformer was re-energized.

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

CORRECTIVE ACTIONS

As a result of this event, the following corrective actions were taken to reduce the probability of a similar event from occurring in the future.

1. Following the immediate rescue and equipment recovery activities, a stand-down of all station personnel involved with risk significant work activities was implemented. No risk significant work activities were permitted until such time that all station personnel attend a formal event briefing. The briefings were conducted on July 22, 2002 by senior station management and stressed the importance of ensuring that all personnel understood their work scope prior to initiating work activities. Also, the importance of accountability for all personnel to use appropriate safety equipment and to monitor their fellow employee's safety work practices were discussed. (Completed)
2. Additional "Danger-High Voltage" and "Danger-Fall Protection Required Beyond This Point" signs were placed at various locations. (Completed)
3. Placed signs requiring authorization by the plant manager for entry into the 138-kV and transformer yard areas. (Completed)
4. An additional Operations hold-off lock was placed on gate 209 (rear of EDG Building) in addition to the existing Security lock. (Completed)

PREVIOUS OCCURRENCES

A review of previous occurrences that involved the same underlying concern or reason as this event was performed. Three (3) recent occurrences were identified, and reported to the NRC in the following LERs:

LER 2001-007-00: This LER reported that on December 26, 2001 at 0720 hours Indian Point Unit 2 experienced an automatic reactor trip which was initiated by a main turbine trip on auto stop oil. The auto stop oil turbine trip was caused by a trip of over frequency relays actuated by a disturbance associated with the 345 Kv Bus W93. All three EDGs started and buses 2A and 3A were manually energized by 22 EDG.

LER 2001-002-00: This LER reported that 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 EDGs.

LER 2001-001-00: This LER reported that on January 2, 2001, at about 1524 hours, during preparations for main turbine start-up and with the reactor at 6.5 percent power, a turbine trip occurred due to high water level in 21 Steam Generator. This event resulted in the initiation of the Auxiliary Feedwater System, which is an Engineered Safety Feature (ESF) actuation.