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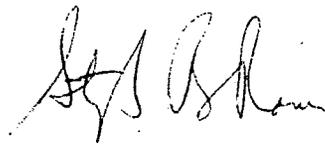
February 25, 1994

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 94-01-00

Document Control Desk
US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

The attached Licensee Event Report LER 94-01-00 is hereby
submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,



Attachment

cc: Mr. Thomas T. Martin
Regional Administrator - Region I
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Francis J. Williams, Jr., Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
US Nuclear Regulatory Commission
Mail Stop 14B-2
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US Nuclear Regulatory Commission
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Buchanan, NY 10511

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P.530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Indian Point Unit No. 2

DOCKET NUMBER (2)

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PAGE (3)

TITLE (4)

ESF and Emergency Diesel Generator Actuation

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 NAMES	DOCKET NUMBER(S)
01	26	94	94	001	00	02	25	94		05000
										05000

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
N	20.402(b)	20.405(c)	X	60.73(a)(2)(iv)	73.71(b)					
POWER LEVEL (10)	20.405(a)(1)(ii)	60.38(c)(1)		60.73(a)(2)(v)	73.71(c)					
100	20.405(a)(1)(iii)	60.38(c)(2)		60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)					
	20.405(a)(1)(iii)	60.73(a)(2)(i)		60.73(a)(2)(viii)(A)						
	20.405(a)(1)(iv)	60.73(a)(2)(ii)		60.73(a)(2)(viii)(B)						
	20.405(a)(1)(v)	60.73(a)(2)(iii)		60.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
James Maylath, Sr. Engineer	9114 71341-15316

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	F	K	F	D	R	X	9	9	9	NA

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X			07	01	95

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 1440 hours on January 26, 1994, with the plant at 100% power, the inservice 138 kv feeder from Buchanan Substation to the IP2 station auxiliary transformer experienced a phase to ground fault. Protective relay/breaker operation resulted in a loss of power to 6.9 kv buses 5 and 6 and 480V buses 5A and 6A as designed. Power was therefore lost to two circulating water pumps causing a reduction in condenser vacuum and a load reduction of approximately 60 MWe.

All three emergency diesels automatically started as designed upon loss of 480V buses 5A and 6A. Buses 5A and 6A were then re-energized from their respective diesels, and equipment supplied by these buses was restored in accordance with Station Procedures. At 1541 hours, power was restored to 6.9 kv buses 5 and 6 from a 13.8 kv source. 480V buses 5A and 6A were reconnected to their 6.9 kv sources and the diesels were secured. At 1646 hours the station auxiliary transformer was re-energized from the alternate 138 kV feeder to provide lines power to 6.9 kv buses 5 and 6.

Upon the loss of power all fan cooler units entered the incident mode. This occurred because one train of the two trains of associated solenoid operated valves (SOV's) was being energized from 480V bus 6A. One charcoal outlet valve of one of the five fan cooler units did not open as expected with the loss of power (the valve did stroke properly when its control switch was operated). A SOV associated with this valve was subsequently replaced.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150 0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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		YEAR 9 4	SEQUENTIAL NUMBER - 0 0 1	REVISION NUMBER - 0 0			

TEXT (If more space is required, use additional NRC Form 366A's) (17)

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

ESF and Diesel Generator Actuation

EVENT DATE:

January 26, 1994

REPORT DUE DATE:

February 25, 1994

REFERENCES:

Significant Occurrence Report (SOR) 94-068

PAST SIMILAR OCCURRENCE:

December 3, 1990; LER 90-016-00
March 20, 1991; LER 91-006-00

DESCRIPTION OF OCCURRENCE:

On January 26, 1994, at 1440 hours, with the unit at full power operation, the inservice 138 kv feeder 95332 from Buchanan Substation, was interrupted. As a result, 6.9 kv bus 5 and 6 normal supply breakers ST5 and ST6 opened causing a loss of power to 6.9 kv buses 5 and 6. 6.9 kv buses 1, 2, 3 and 4 were being supplied by the unit (from Indian Point No. 2 main generator output) through the unit auxiliary transformer which is the normal source of power with the unit at full power operation. The loss of 6.9 kv buses 5 and 6 caused a loss of power to Circulating Water Pumps 22 and 25 and 480V buses 5A and 6A. The loss of the two circulating water pumps caused a reduction in condenser vacuum, which resulted in a power reduction of approximately 60 MWe. All three emergency diesels automatically started as designed upon loss of power to 480V buses 5A and 6A. The control room operators then closed diesel output breakers EG1 and EG3 to restore power to 480V buses 5A and 6A. Restoration of equipment proceeded as directed by Abnormal Operating Instruction 27.1.1, "Loss of 138 kv". At 1533 hours, power was restored to 6.9 kv bus 5 and 480V bus 5A from 13.8 kv feeder 13W92, through breaker GT25, and Emergency Diesel Generator (EDG) 21 was subsequently disconnected from the bus and secured. At 1541

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF OCCURRENCE: (continued)

hours, power was restored to 6.9 kv bus 6 and 480V bus 6A from the above 13.8 kv source, through breaker GT26, and EDG 23 was subsequently disconnected from the bus and secured (EDG 22 which was kept running, but not loaded because 480V buses 2A and 3A did not lose their normal source of power, was secured at approximately the same time as EDG 21 and 23). At 1646 hours the 138 kv source of offsite power was restored through feeder 95331 (through cross tie feeder 33332) from Buchanan Substation and breakers ST5 and ST6 were closed. At 1647 hours, the 13.8 kv power source was removed with the opening of breakers GT25 and GT26.

During this event one out of two trains of fan cooler unit damper solenoid operated valves (SOV's) de-energized which should have resulted in all of the fan cooler units entering the incident mode. Fan Cooler Unit (FCU) 25 Charcoal Outlet Valve did not open as expected when its A Train SOV was de-energized. The Train A SOV associated with the FCU 25 outlet valve was suspected to be sticking and was replaced; the valve was opened, tagged and placed in the incident or open position until it was replaced. The outlet valve operated properly after the replacement.

ANALYSIS OF OCCURRENCE:

This report is being made because actuation of an Engineered Safety Features System (ESF) occurred. Any manual or automatic actuation of an ESF is reportable under 10 CFR 50.73 (A)(2)(iv). There were no adverse safety implications as a result of this event. All ESF, with the exception of the FCU 25 Charcoal Outlet Valve, performed as expected. The other train, interruption of air to containment, or manual operation from the CCR would have caused proper operation of this valve. This event did not cause any personnel injury or damage to equipment other than the fault on 138 kv feeder 95332.

CAUSE OF OCCURRENCE:

A phase to ground fault on the B-phase "M" leg of 138 kv feeder 95332 was the cause of the loss of this 138 kv source of offsite power. This resulted in protective relay actuations which opened 138 kv breakers F2 and BT3-4 at Buchanan Substation and 138 kv breaker BT4-5 and 6.9 kv breakers ST5 and ST6 at Indian Point. The opening of these breakers interrupted one of the 138 kv offsite power sources (feeder 95332), the station auxiliary transformer and 6.9 kv buses 5 and 6. The unit auxiliary transformer was supplying 6.9 kv buses 1, 2, 3 and 4 from the output of the unit which remained in service throughout this event.

The fan cooler units entered the incident mode upon loss of power to 480V bus 6A because bus 6A was the source of power for one train of solenoids associated with the fan cooler dampers.

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FACILITY NAME (1)

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YEAR	SEQUENTIAL NUMBER	REVISION NUMBER

TEXT (If more space is required, use additional NRC Form 366A's) (17)

CORRECTIVE ACTION:

138 kv power was restored at 1646 hours on the same day.

After the event, FCU 25 outlet valve was placed in the incident (open) position by its associated control switch (the valve did stroke when the control switch was operated). During the following week, containment entries (under power) were made to inspect the valve and to replace the associated solenoid valve which was suspected to be sticking.

The SOV which was replaced was investigated by the Station Failure Analysis and Environmental Qualification System Engineers.

This investigation did not reveal any defect with the SOV that could be attributed as the cause of the failure of the outlet valve to open. It was therefore determined that the results of the monthly test (in addition to the quarterly test) of the FCU valves should be monitored by Plant Engineering until further investigation of other potential sources of the failure (such as the poppet valves) could be performed. Since more extensive disassembly of FCU valves would be required for this further investigation, the increased monitoring will be maintained until an outage of sufficient duration.