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Vice President

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July 12, 1995

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 95-16-00

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

The attached Licensee Event Report LER 95-16-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

Thomas Quinn

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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NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit No. 2	0 5 0 0 0 2 4 7	1 OF 0 3

TITLE (4)

Direct Generator Trip/Reactor Trip

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)
0 6	1 2	9 5	9 5	–	0 1 6	–	0 0	0 7	1 2	9 5		0 5 0 0 0
												0 5 0 0 0

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 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
9 0		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Joseph M. Bahr, Principal Engineer	AREA CODE 9 1 4 7 3 4 – 5 6 0 2

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	
X	S J	F C V	C 6 3 5	Y							
X	I G	D E T	W 1 2 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		1 2	3 1	9 5

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

On June 12, 1995, with the unit operating at 90% power, an electrical generator trip occurred due to the actuation of a pilot wire relay at the Buchanan Substation. The generator trip initiated a main turbine trip, which in turn initiated a reactor trip. As expected, the sudden loss of electrical load caused by the direct generator trip resulted in a main turbine and generator overspeed of approximately 120%. Subsequent to the trip, the main feedwater regulating valves for steam generators 21, 22 and 24 failed to close on both automatic and manual signals. The main feedwater pumps were secured by the operators which terminated feedwater flow. As reactor power decreased into the intermediate range, nuclear instrument N36 failed, requiring the operators to manually initiate the source range instruments. It was determined that the main feedwater regulating valves failed due to over torquing of the valve packing, which has since been corrected. Upon completion of a post trip review and a further review by the Station Nuclear Safety Committee, a reactor restart was performed.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Direct Generator Trip due to Pilot Wire Protection

EVENT DATE:

June 12, 1995

REPORT DUE DATE:

July 12, 1995

REFERENCES:

Significant Occurrence Report (SOR) 95-419

PAST SIMILAR OCCURRENCE:

None

DESCRIPTION OF OCCURRENCE:

On June 12, 1995 at 0848 hours, with the unit operating at 90% power, a main generator pilot wire trip signal, which originated from the offsite Buchanan substation, caused a direct main generator trip at Indian Point Unit 2. The main generator trip resulted in automatic turbine and reactor trips. The sudden loss of electrical load caused by the generator trip resulted in an overspeed of the main turbine and generator. The magnitude of the overspeed was determined to be approximately 120%.

Subsequent to the trip, main feedwater regulating valves for steam generators 21, 22 and 24 failed to close on both automatic and manual signals. The purpose of this isolation signal is to prevent an overfill condition of the steam generators. Feedwater addition was terminated by operator action to secure the main feedwater pumps in accordance with operating procedures.

Immediately after the trip, reactor power decreased into the Intermediate Range Power level and Nuclear Instrument N36 failed, resulting in the inability of the Source Range Instruments to become automatically activated. This required the operators to manually activate the two source range instruments in accordance with operating procedures.

All other equipment operated properly and the plant was safely brought to a hot shutdown condition.

ANALYSIS OF OCCURRENCE:

This report is being made because an actuation of the Reactor Protection System (RPS) occurred on June 12, 1995. This actuation is reportable under 10 CFR 50.73(a)(2)(iv). The extent of the turbine and generator overspeed was determined by Westinghouse and General Electric, the respective manufacturers, to be within design limits and as expected for the plant conditions at the time of the event. The termination of feedwater flow by the operators in accordance with procedures prevented an overfilling of the steam generators.

CAUSE OF OCCURRENCE:

The cause of the direct transfer trip from the Buchanan substation was the actuation of pilot wire relay HCB/85PW. This actuation was caused by a broken wire in the output circuit breaker differential circuit on the A-phase current transformer wire and a ground on the C-phase current transformer wire which was sensed by the pilot wire scheme as an over current condition through a ground fault detector.

The cause of the failure of the main feedwater regulating valves to close on demand was determined to be excessive tightening of the valve packing. Investigation and consultation with the packing vendor revealed that the torquing on the valves' packing which was found to be on the order of 25 ft.-lbs should have been 15 ft.-lbs as required by the vendor specifications. These valves had been repacked during the 1995 refueling outage and were documented to have been properly repacked, torqued and tested.

The cause of the as-found values for the valve packing torque being higher than the as-left values is under investigation.

CORRECTIVE ACTION:

A post trip review was completed and meetings of the Station Nuclear Safety Committee were held on June 12 and June 13, 1995 to review the trip, its cause and the followup actions. It was concluded that the actions taken during and immediately following the trip were adequate and appropriate.

The current transformer wiring was restored and appropriately tested for continuity. No design changes were determined to be warranted. The main feedwater regulating valves' packing torque was corrected and ASME Section XI stroke test performed successfully prior to startup.

The circumstances surrounding the as-found torque values of the main feedwater regulating valves' packing are still under investigation. The investigation is expected to be complete by November 30, 1995.

Nuclear Instrument N36 which failed to operate was replaced prior to startup.