Stephen B. Bram Vice President

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March 30, 1991

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

The attached Licensee Event Report LER 91-05-00 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 Washington, DC 20555

Senior Resident Inspector US Nuclear Regulatory Commission PO Box 38 Buchanan, NY 10511

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Re: Indian Point Unit No. 2 Docket No. 50-247 LER 91-05-00

NRC FORM 366 (6-89)					u.									U.S. NUCLEAR REGULATORY COMMISSION					APPROVED OMB NO. 3150-0104														
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On February 28, 1991, during a cold shutdown outage for refueling, a 6.9 kv bus normal feed breaker tripped open causing a loss of power to two 6.9 kv buses and their associated 480V buses. Approximately 30 seconds later, two station service transformer supply breakers tripped open upon actuations of two time delay relays which functioned when the 6.9 kv buses lost power. The loss of power to the 480V buses initiated the start up of two Emergency Diesel Generators (EDG's). A third EDG was out for maintenance. The EDG's did not automatically pick up the load of the 480V buses because the unit trip lockout relays were reset. As a result, equipment rendered out-of-service included one service water pump and one component cooling pump. Residual heat removal was not affected. The normal feed breaker was closed in approximately two minutes and power was restored to the 480V buses.

LICENSEE EVENT REPORT	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.
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) PAGE (3)
		YEAR SEQUENTIAL REVISION NUMBER NUMBER
Indian Point Unit No. 2	0 5 0 0 0 2 4 7	9 1 - 0 0 5 - 0 0 0 2 0 F 0 3
TEXT (If more space is required, use additional NRC Form 366A's) (17)		
PLANT AND SYSTEM IDENTIFICATION:		
Westinghouse 4-Loop Pressurized Wa	ater Reactor	
IDENTIFICATION OF OCCURRENCE:		· .
Inadvertent trip of 6.9 kv breaker 480V buses and initiating diesel a	r ST5 resulting in l auto-start.	oss of power on
EVENT DATE:		
February 28, 1991		
REPORT DUE DATE:		
March 30, 1991		
REFERENCES:		
Significant Event Reports (SOR) 91	-118	
PAST SIMILAR OCCURRENCE:		
July 13, 1984; SOR 85-220, LER 84-	008	
DESCRIPTION OF OCCURRENCE:		
On February 28, 1991, at 0750 hour refueling, 6.9 kv bus 5 normal fee cause of the breaker trip could no indicators were observed. Mainten the 6.9 kv switchgear area around	d breaker ST5 trippe t be determined sinc ance personnel had b	d open. The e no relay target
The loss of 6.9 kv bus 5 resulted being fed from bus 5 through a tie lost to 480V buses 5A and 2A. This Emergency Diesel Generators (EDG's seconds after the initial event, ca supply breaker SS5 and Station Ser SS2 to trip open due to actuation 27-2/62. At the time EDG #21 was maintenance. The EDG's did not pic trip lock-out relays were reset. I conjunction with a unit trip is red	breaker. As a resu s initiated an autom) #22 and #23, and a aused Station Servic vice Transformer 2 s of time delay relays tagged out-of-servic ckup the 480V buses Loss of either 480V	lt, power was atic start of pproximately 30 e Transformer 5 upply breaker 27-5/62 and e for

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Service Water Pump #24 and Component Cooling Water Pump #21 were deenergized as a result of the power loss on the 480V buses. The operator started Service Water Pump #25, and approximately 2 minutes after the initial incident, he reclosed Breakers ST-5, SS-5 and SS-2 re-energizing the 6.9 kv and 480V buses. Associated lighting and Motor Control Centers were reset, and pump configuration was returned to the condition prior to the incident. EDG #22 and #23 were shutdown and placed in auto at 0810 hours.

ANALYSIS OF OCCURRENCE:

This report is being made because actuation of an Engineered Safeguards 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 safeguards actuations features performed as expected. This event did not cause a loss of decay heat removal capability, any injury of personnel or any damage to equipment.

CAUSE OF OCCURRENCE:

When the breaker tripped, there were no relay targets which indicated the cause of the trip or confirmed the breaker opening to the operator. At the time of the trip a periodic maintenance procedure was being performed on other breakers in the 6.9 kv switchgear area. These breakers are normally removed from the area to perform maintenance. This could not be accomplished due to tagouts which restricted movements in and out of the already cramped 6.9 kv area. An interview with personnel at the time of the event was inconclusive as to the exact cause of the trip. Determination of the most probable cause was reached by the process of elimination. There were no flags confirming the opening of Breaker ST-5, a disturbance on the 138 kv system would have sent a signal for Breaker ST-6 to open (none was received), and ST-5 remained closed when it was returned to service. These facts lead to the conclusion that the most probable cause of the breaker trip was an inadvertent bumping of the breaker cubicle during the performance of periodic maintenance on an adjacent breaker.

CORRECTIVE ACTION:

As an immediate corrective action, the Senior Watch Supervisor (SWS) reminded the individuals working in the 6.9 kv area of the need to exercise caution when working around plant equipment since bumping relays could cause breaker trips that could potentially lead to reactor trips. Training will ensure that their programs stress the importance of personnel attentiveness to the consequences of bumping into plant components.