Paul H. Kinkel Vice President

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May 20, 1998

Re: Indian Point Unit No. 2 Docket No. 50-247 LER 98-06-00

Document Control Desk US Nuclear Regulatory Commission Mail Station P1-137 Washington, DC 20555-0001

The attached Licensee Event Report LER 98-06-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

Paul 1/1/

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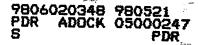
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cc:

Mr. Hubert J. Miller, Regional Administrator-Region I US Nuclear Regulatory Commission 475 Allendale Road King of Prussia, PA 19406-1498

Mr. Jefferey F. Harold, 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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SUPPLEMENTAL REPORT EXPECTED (14) EXPECTED	MON	NTH	DA	Y YE		
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On April 20, 1998, with the Indian Point Unit No. 2 (IP2) station in a cold shutdown condition, it was determined that the nitrogen accumulators, which are the nitrogen supply system to the power operated relief valves (PORVs) for the low temperature overpressure protection system, may not meet the Updated Final Safety Analysis Report (USFAR) design basis to support a minimum of 200 cycles of the PORVs. The accumulators are part of the overpressure protection system (OPS) for the reactor coolant system (RCS). Although the available accumulator nitrogen supply is adequate to perform most duties required by the system, further investigation is required to determine if the system is large enough to sustain 200 continuous cycles of a PORV. The OPS system was not required to be operable during the time of the occurrence.

Corrective action implemented was to increase the available nitrogen storage volume by connecting it to one safety injection accumulator.

FACILITY NAME (1)	DOCKET NUMBER (2)		LER N	IUMBER	२ (6)	1
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Indian Point Unit No. 2	05000247	98	° C)06 ·	- 00	2
re space is required, use additional copies of NRC Form	366A) (17)					<u>II</u>
PLANT AND SYSTEM IDENTIFICATION:						
Westinghouse 4-Loop Pressurized Water Reacto	or ·					
DENTIFICATION OF OCCURRENCE:		• •		•		
Potential for insufficient capacity of the nitrogen	accumulators used by	, the ov	ernre	CC1170	protection	n evet
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EVENT DATE:		,			-	
April 20, 1998	• •					
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DESCRIPTION OF OCCURRENCE:				,		

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NRC FORM 366A (4-95)	······································	U	S. NUCLEAR F	REGULATO	DRY C	OMMIS	SION
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FACILITY NAME (1)	DOCKET NUMBER (2)		LER NUMBER	<u> </u>	PAGE (3)		
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Indian Point Unit No. 2	05000247	98	006	00	3	OF	4

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

DESCRIPTION OF OCCURRENCE (continued):

PCV-456 was re-tested on April 16, 1998 using the revised procedure and again did not meet the 3 psi acceptance criteria. Additional testing was performed on April 20 to more accurately determine the actual PORV actuator nitrogen consumption. Further analysis of the data is needed, but preliminary indications are that the PORV nitrogen mass consumption is greater than was calculated in the original system design analysis. The nitrogen supply system accumulators are required to provide adequate stored volume to support a minimum 200 cycles (full open/closed) of the PORVs. This potential condition was reported via a 10 CFR 50.72(b) 4 hour report on April 20, 1998.

ANALYSIS OF OCCURRENCE:

This report is being made pursuant to 10 CFR 50.73(a)(2)(ii)(B) with regard to shutdown events involving degradation of a principal safety barrier. The OPS accumulators are sized to provide adequate stored volume of nitrogen for PORV operation. For most modes of PORV operation the 6 cubic foot volume of the accumulators are more than adequate. The limiting mode of PORV operation with respect to available nitrogen supply is the requirement to address the impact of an inadvertent start of a safety injection pump when the pressurizer is filled with water which makes the RCS system liquid bound. The PORVs are then assumed to cycle 200 times before the operator takes action. Calculations made in 1978 showed that the OPS accumulators would meet this requirement. However current test results have initiated Engineering reviews of the existing design analysis and other relevant information to determine the adequacy of the accumulator supply capacity. Analysis indicates that this pressure change may be sensitive to temperature changes which were not accounted for in the original calculations. Engineering has not yet completed its evaluation of the probable cause of the event. A supplement to this report will be issued when the results of the ongoing evaluation becomes available.

NRC FORM 366A (4-95)			U.S. NUCLEAR	REGULA	TORY	COMMI	SSION		
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION									
FACILITY NAME (1)	DOCKET NUMBER (2)		LER NUMBER (PAGE (3)					
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER					
Indian Point Unit No.	2 05000247	98	006	00	4	OF	4		

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

CAUSE OF OCCURRENCE:

The cause of occurrence is presently under engineering evaluation. A supplemental report will be issued to address this issue.

CORRECTIVE ACTIONS:

The immediate corrective action taken was to increase the capacity of the OPS nitrogen supply by utilizing one of the SI accumulators and tying it to the common nitrogen supply line to both OPS accumulators. The OPS accumulators will remain isolated from each other via check valves 4106 & 4107, but would allow re-pressurization from the SI accumulator after each valve stoke. This would insure there is always sufficient capacity for 200 valve strokes. The common flow path between the selected SI Accumulator and the PORV contains passive and active components. The active components that can affect the operation of redundant trains have been locked in their service position for this change. Check valves on the fill line will also prevent depressurization of the PORV accumulators. Valve line-up and valve blocking functions required for this change are controlled by procedures. To use one SI Accumulator with its nitrogen fill valve locked open as a nitrogen supply to the PORV's meets the requirement of a single active failure and will support more than 200 cycles of operation during the most limiting OPS transient event. This corrective action only applies to RCS temperatures below 305 degrees Fahrenheit when the SI accumulators are not in service.

Long term corrective actions are presently under engineering evaluation and will be addressed in a supplement to this report.

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