NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

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EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point 3	05000286	1 OF 6

TITLE (4) The Reactor Coolant System Over-Pressurization Protection System was Inoperable Due to Inadequate Procedure; A Condition Prohibited by Technical Specifcations

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
08	13	97	97	--017--	00	09	12	97		05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10)	000		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)		
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vi		OTHER		
			20.405(a)(1)(iii)	✓	50.73(a)(2)(i)		50.73(a)(2)(vi		(Specify in Abstract below and in Text, NRC Form 366A)		
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vi				
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
John Wheeler, Assistant Operations Manager	(914)736-2281

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On August 13, 1997, at approximately 1420 hours, with the plant in the cold shutdown condition, NYPA determined that two of three pressure inputs to the Over-Pressurization Protection System (OPS) circuitry were isolated, thereby making OPS inoperable. This is a condition prohibited by Technical Specification 3.1.A.8. A four hour report was made to the NRC pursuant to 10 CFR 50.72 (b) (2) (iii), at 2056 hours, on August 13, 1997.

The cause of the event was that the procedural requirements lacked specifics for verifying OPS operability prior to entering a plant condition that required OPS to be operable. Contributing causes were the failure of the appropriate personnel to recognize the isolation of the OPS pressure transmitters when two Protective Tagging Orders were applied and inadequate review of deviations from the Reactor Coolant System (RCS) system check off list.

Immediate corrective actions included depressurization of the RCS, securing the inservice charging pump and establishing a vent path by opening the Power Operated Relief Valves (PORVs). Further corrective actions will be to provide specific procedural requirements for verifying OPS operability prior to entering a plant condition that requires OPS.

This event had no effect on the health and safety of the public.

Note: The Energy Industry Identification System Codes are identified within the brackets { }

DESCRIPTION OF EVENT

On May 22, 1997, at 1800 hours, the Overpressure Protection System (OPS) was removed from service in accordance with Plant Operating Procedure POP-4.1, "Operation at Cold Shutdown" and a Potential Limiting Condition for Operation (PLCO) was entered.

On June 21, 1997, at 1930 hours, a Protective Tagging Order (PTO) was applied on Reactor Coolant System (RCS){AB} root isolation sample valves SP-954 A and B {RTV}. The OPS pressure transmitters PT-413 and PT-433 {PT} for RCS loops 1 and 3 tap into the lines to the RCS chemistry sampling system downstream of valves SP-954 A and B. On July 22, 1997, at 1500 hours, a second PTO was applied to close sample valves SP-954 A and B. Neither PTO was added to the LCO tracking system in accordance with AP 10.1, "Protective Tagging" because the verifier and authorizer did not recognize that closing sample valves SP-954 A and B also affected OPS.

On July 23, 1997, at 0610 hours, the June 21 PTO was removed. Valves SP-954 A and B remained closed due to the July 22 PTO. On August 11, 1997, at 2120 hours, the RCS alignment was checked using the RCS Check-Off List (COL) COL-RCS-1. The COL identified the PTO against these valves but it did not identify that OPS would be disabled. The Control Room Supervisor (CRS) did not identify that OPS was affected, and determined that the deviation to the COL was an acceptable condition for commencing RCS fill and vent, based on the PTO description, components protected and the absence of the July 22 PTO on the OPS LCO tracking sheet.

On August 12, 1997, at 0645 hours, OPS was declared operable while performing plant operating procedure POP-1.1, "Plant Heatup from Cold Shutdown Condition" based on the Shift Manager's review of the LCO tracking system and the clearing of the PLCO entered on May 22, 1997.

On August 13, 1997, at approximately 0400 hours, the Power Operated Relief Valves (PORVs) were closed during RCS fill and vent in accordance with SOP-RCS-9. This resulted in a non-conformance with Technical Specification 3.1.A.8 which requires a vent path with OPS inoperable. On August 13, 1997, at approximately 1350, with RCS pressure at 90 psig and 100 degrees F, Operators monitoring RCS pressure indicators {PI} noticed that they were not trending upward as expected, that they were reading approximately 50 lbs apart, and that the OPS pressure gauges did not respond to the RCS pressure increase. A nuclear plant operator (NPO) was dispatched to investigate.

On August 13, 1997, at 1420 hours, OPS was declared inoperable following identification by the NPO that the closed sample valves SP-954 A and B isolated two of three required pressure inputs to the OPS circuitry. Isolation of pressure transmitter PT-402 also isolated the signal to the Residual Heat Removal (RHR) {BO} overpressure protection interlock function provided by RHR motor-operated gate suction valves 730 and 731. This reduced the RHR overpressure protection redundancy, but the function would still have been performed.

On August 13, 1997, at 1513 hours, a RCS vent path was established when both PORVs were opened. On August 13, at 1951 hours, clearing of the PTO was completed. A four hour report was made to the NRC at 2056 hours pursuant to 10 CFR 50.72 (b) (2) (iii) within four hours of recognizing that OPS could constitute an accident mitigating system. A Deviation Event Report DER-97-2068 was written to review the question regarding if this system constitutes an accident mitigating system.

CAUSE OF EVENT

The cause of the event was that the procedural requirements lacked specifics for verifying OPS operability prior to entering a plant condition that required OPS to be operable. Procedural guidance was absent because operations had relied on the LCO tracking system for verifying system operability.

Two human errors contributed to the event. The first was the failure to recognize isolation of the OPS pressure transmitters when the PTOs were applied to close valves SP-954 A and B. The second was an inadequate review of deviations from the COL-RCS-1 with respect to system operation.

CORRECTIVE ACTIONS

The following corrective actions have been or will be performed to address the causes of this event:

- A shift order was issued on August 15, 1997 as an interim measure to clarify statements in procedures such as "verify operable" by requiring specific information in the step on how to accomplish it or utilize the system operability check list, to clarify how to annotate COL items as verified, and clarify when to initiate COLs based on system status.

- Specific COLs which verify operability through assessment across multiple system boundaries were developed and field verified prior to key startup milestones for systems required by Technical Specification. These will be formalized by March 14, 1998.

- The system operability checklist was enhanced for closing all LCOs/PLCO's. This will document reviews performed as part of operability determination. This will be proceduralized by March 14, 1998.

- Lessons learned will be included in Licensed Operator Requalification training. This is scheduled to be completed by March 14, 1998.

ANALYSIS OF EVENT

The condition is being reported under 10 CFR 50.73 (a)(2)(i)(B). The licensee shall report any operation or condition prohibited by the plant's Technical Specifications (TS). TS 3.1.A.8.a requires that, when the RCS temperature is below 332 degrees F and the RCS is not depressurized and vented with the equivalent opening of at least 2.00 square inches, the OPS shall be "armed" and "operable." TS 3.5, Table 3.5-3, "Instrumentation Operating Condition for Engineered Safety Feature" requires two of three pressure input channels to the Over-Pressurization Protection System (OPS) circuitry to be operable in accordance with TS 3.1.A.8. Therefore, inoperability of the OPS from August 13, 1997, at approximately 0400 hours when the PORVs were closed until August 13, 1997 at 1513 hours when the PORVs were re-opened placed the plant in a condition prohibited by Technical Specifications.

The event was also considered under 10 CFR 50.73 (a)(2)(v). The licensee shall report any event that could have prevented the fulfillment of the safety function needed to mitigate the consequences of an accident. The event was also considered under 10 CFR 50.73 (a)(2)(vii). The licensee shall report any event that caused inoperability of two channels in a single system designed for accident mitigation. OPS is relied upon to mitigate mass addition and temperature addition transients with the RCS below 332 degrees Fahrenheit. The FSAR accident analysis Chapter 14 does not specifically analyze the pressure transient. However, Chapter 7 of the FSAR credits the OPS system in preventing RCS from exceeding the Technical Specifications limits of 10CFR50 Appendix G during low temperature, low pressure and water solid modes of operation.

A review of Licensee Event Reports (LERs) did not identify any other LERs over the last two years for similar events concerning lack of specific procedural requirements for verifying system operability prior to entering a plant condition.

SAFETY SIGNIFICANCE

This event did not have an effect on the health and safety of the public.

The RCS system was not challenged by this event. Pressure did not exceed 100 psig and the first activation of OPS would have been at about 420 psig for a pressure transient. Operator indication was available since Pressure Transmitter PT-443 was in service and would have provided the "impending RCS overpressurization" alarm. Operator response to the alarm in accordance with Alarm Response Procedure ARP-10, "Panel SGF-Auxiliary Coolant System" requires a reduction in pressure.

The RHR system remained in service and is equipped with a pressure relief valve sized to relieve the flow of three charging pumps. One channel for the RHR suction valve isolation function was operable and would have isolated the RHR system for an overpressure event. The Safety Injection pumps were not aligned to the RCS in that their control switches were in trip pull out. The RCS was below the pressure for starting the Reactor Coolant Pumps. Therefore, conditions that may have provided mass input to the RCS were minimized and operators recognized the problem early such that no pressure transients occurred that would have challenged either the RCS or RHR system.