

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736.8001



**New York Power
Authority**

L. M. Hill
Resident Manager

November 18, 1994
IPN-94-147

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop PI-137
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
Licensee Event Report # 94-011-00
"A Failure to Maintain the Required Equivalent Vented Opening of
2.00 Square Inches in the Reactor Coolant System Placed the Plant
in a Condition Prohibited by Technical Specifications"

Dear Sir:

The attached Licensee Event Report (LER) 94-011-00 is hereby submitted as required by 10CFR50.73. This is of the type defined in 10CFR50.73(a)(2)(i)(B). Also attached is the commitment made by the Authority in this LER.

Very truly yours,

A handwritten signature in cursive script that reads "L. M. Hill".

L. M. Hill
Resident Manager
Indian Point 3 Nuclear Power Plant

LMH/DWO/vjw

Attachments

cc: See next page

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PDR ADOCK 05000286
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Handwritten initials, possibly "JEH", in the bottom right corner of the page.

cc: Mr. Thomas T. Martin
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

INPO Records Center
700 Galleria Parkway
Atlanta, Georgia 30339-5957

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant

List of Commitments

Number	Commitment	Due
IPN-94-147-01	A supplement to this LER will be prepared detailing the cause of the event and additional corrective actions to prevent recurrence, as appropriate. This supplement will be submitted by December 15, 1994.	December 15, 1994

LICENSEE EVENT REPORT (LER)

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

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.

FACILITY NAME (1) Indian Point Unit 3	DOCKET NUMBER (2) 05000286	PAGE (3) 1 OF 6
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TITLE (4) A Failure to Maintain the Required Equivalent Vented Opening of 2.00 Square Inches in the Reactor Coolant System Placed the Plant in a Condition Prohibited by Technical Specifications

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
10	19	94	94	-- 011 --	00	11	18	94	FACILITY NAME	DOCKET NUMBER 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)(vii)			OTHER	
	20.405(a)(1)(iii)			<input checked="" type="checkbox"/>			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 David W. O'Brien, Technical Licensing Coordinator	TELEPHONE NUMBER (Include Area Code) 914-736-8017
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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

SUPPLEMENTAL REPORT EXPECTED (14)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH 12	DAY 15	YEAR 94
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 18, 1994, between 1305 hours and 1823 hours with the plant in the cold shutdown condition and the reactor coolant system (RCS) depressurized, the available RCS equivalent vented opening was less than 2.00 square inches. This condition was in violation of Technical Specification 3.1.A.8.b(1). This event was due to a failure to fully block open Power Operated Relief Valve (PORV), RC-PCV-456. The cause for this failure has not yet been determined. Immediate corrective actions included issuing an Operations shift order to provide the necessary guidance for maintaining the required equivalent vented opening of at least 2.00 square inches and the installation of a properly fabricated set of blocking devices.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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

Description of Event

On August 30, 1994, the plant was in the cold shutdown condition with reactor power at 3 counts per second, and reactor coolant system (RCS) (AB) temperature at 94 degrees Fahrenheit and vented at atmospheric pressure. At 2200 hours, a reactor operator with the assistance of a maintenance mechanic blocked open both Power Operated Relief Valves (PORV) (RV), RC-PCV-455C and RC-PCV-456, located on top of the pressurizer by placing a pair of metal disks into the yoke area next to the valves' stems. This was done in accordance with operating order #006719. The purpose of this action was to maintain these valves open when the nitrogen (N₂) supply to the valves' operators was isolated. The isolation of N₂ to these valves was in support of maintenance on the N₂ supply to the safety injection system (BQ) accumulators (ACC). The PORVs had been held open since the completion of RCS fill and vent evolution by applying N₂ to them. The PORVs are opened by N₂ and shut by springs in their valve operators when the N₂ is vented. By maintaining the PORVs open in this way, the Technical Specification requirement for providing an equivalent vented opening in the RCS of at least 2.00 square inches was satisfied. Each PORV is capable of satisfying this requirement when in the full open position.

The blocking devices for the PORVs had been fabricated by the Maintenance department upon request by the Operations department based upon operating order #006719 which called for blocking the PORVs open. This request did not specifically include a requirement that the blocking devices were to be fabricated to achieve the effect of blocking the PORVs in their full open positions. As a result, the blocking devices were fabricated in such a manner as to permit some movement in the valve stem to allow for ease of installation and removal. Essentially, the blocking devices were custom made for each PORV based on the condition and configuration of the valves at the time of measurement by the maintenance mechanic who also fabricated them. Prior to installation, both the shift supervisor and the reactor operator questioned the maintenance supervisor regarding the appearance that the blocking devices were different in size. They were reassured by the maintenance supervisor that the blocking devices had been properly measured. Additionally, the reactor operator who installed the blocking devices questioned the resulting Central Control Room (CCR) dual indication of the open/shut valve position indication lights (IL) for RC-PCV-456. The senior reactor operator was satisfied that both valves were blocked open far enough to provide the combined equivalent vented opening of greater than 2.00 square inches. The Operations shift crew who installed the blocking devices did not know at that time that the valves would be stroke-tested in the future.

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

On October 18, 1994, the reactor was in the cold shutdown condition with reactor power at 3 counts per second, and RCS temperature at 91 degrees Fahrenheit and vented at atmospheric pressure. The dayshift senior reactor operator granted permission for a Technical Services department contract engineer to perform engineering acceptance test, ENG-558, revision 1, "PORV Stroke Test for Nitrogen Storage Determination." The precautions and limitations section of ENG-558 required that the RCS be vented with an opening of at least 2.00 square inches. The test also required that each PORV would be stroked open and closed, but that both PORVs would not be closed at the same time to ensure that the RCS remained vented as required by Technical Specifications.

At 1305 hours on October 18, 1994, the blocking devices were removed from RC-PCV-455C as directed by ENG-558 to permit the stroking of the valve. The blocking devices for RC-PCV-456 remained in place. At 1823 hours, the blocking devices were re-installed on RC-PCV-455C. RC-PCV-455C had been stroked fourteen times during the period. The opening provided by RC-PCV-456 was being used to satisfy the equivalent vented opening requirements for the RCS. RC-PCV-456 was similarly tested and ENG-558 was completed at 2151 hours.

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On October 19, 1994, at approximately 0700 hours, the NRC resident inspector, who had witnessed the test the previous day, informed an Operations department shift supervisor that he had observed that the two sets of PORV blocking devices were of different sizes, and questioned whether the Technical Specification requirement for the RCS equivalent vented opening had been met. The shift supervisor initiated a Deviation Event Report (DER) 94-987 at that time to evaluate the inspector's concern. Technical Services department system engineering and Maintenance department engineering evaluated the condition and concluded on October 19, 1994, that the set of blocking devices for RC-PCV-456 did not block open the valve sufficiently to meet the Technical Specification requirement of 2.00 square inches as specified in Technical Specification section 3.1.A.8.b(1). This valve was being solely relied upon to satisfy that requirement when RC-PCV-455C was being stroke-tested in accordance with ENG-558. Maintenance and Technical Services engineering determined, with the assistance of the valve manufacturer, Copes-Vulcan, that the set of blocking devices installed in RC-PCV-456 provided an equivalent vented opening of 1.71 square inches. The time that the plant was in violation of the Technical Specification requirement to be vented with an equivalent opening of 2.00 square inches was a maximum of 5 hours and 18 minutes as recorded in the CCR log book. This time bounds the duration for stroking RC-PCV-455C open and closed.

On October 22, 1994, at 1140 hours, the set of blocking devices for RC-PCV-456 were replaced with a set of blocking devices fabricated to block the valve fully open.

Cause of Event

The cause of the event has not yet been determined. Evaluations are continuing with respect to procedural adequacy, the physical characteristics of the PORVs and their operation, and the communications which occurred between departments regarding the technical information that forms the basis for the Technical Specification requirement.

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

Corrective Actions

The following immediate corrective actions have been or will be performed to prevent recurrence of this event.

- An Operations shift order was issued on the October 25, 1994 to provide, based on the current design of the PORVs, the guidance necessary for ensuring the Technical Specification section 3.1.A.8 requirement for a RCS equivalent vented opening of at least 2.00 square inches is maintained.
- A supplement to this LER will be prepared detailing the cause of the event and additional corrective actions to prevent recurrence, as appropriate. This supplement will be submitted by December 15, 1994.
- The correctly sized set of blocking devices to fully open RC-PCV-456 was installed on October 22, 1994 at 1140 hours.

Analysis of the Event

This event is reportable under 10 CFR 50.73(a)(2)(i)(B). The licensee shall report any operation or condition prohibited by the plant's Technical Specifications. Between 1305 hours and 1823 hours on October 18, 1994, the RCS equivalent vented opening was less than the minimum 2.00 square inches as required by Technical Specification section 3.1.A.8.b(1).

Similar LERs related to a failure to recognize nonadherence to Technical Specifications include LERs 93-001, 93-003, 93-004, 93-008, 93-009, 93-010, 93-013, 93-019, 93-020, 93-021, 93-022, 93-023, 93-024, 93-028, 93-034, 93-039, 93-040, 93-049, 93-053, 94-003, 94-004 and 94-010.

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Safety Significance

This event had no significant effect on the health and safety of the public. Previous analysis indicates that the critical relief area for the low temperature overpressurization system (LTOPS) is defined as 0.00971 square feet which is equivalent to 1.40 square inches. The equivalent area which existed during the time period for this event when RC-PCV-456 was being solely relied upon was calculated to be 1.71 square inches. This value is greater than the required equivalent area by analysis, but does represent some reduction in the margin which is represented by the difference between the 1.40 square inches analyzed value and the Technical Specification minimum required value of 2.00 square inches. This margin represents uncertainties in the valve manufacturer's tolerances.

The period of time where the Technical Specification required equivalent vented opening of at least 2.00 square inches was not being met was relatively short, 5 hours and 18 minutes. During this time, RC-PCV-455C was being opened and closed as part of a test. Had the Operations shift crew identified a challenge to the Overpressure Protection System (OPS), they would have opened the valve. The plant did not experience any evolution or transient which would have presented a challenge to the OPS.