

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



**New York Power  
Authority**

**L. M. Hill**  
Site Executive Officer

October 18, 1995  
IPN-95-107

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant  
Docket No. 50-286  
License No. DPR-64  
Licensee Event Report # 95-021-00  
**Vapor Containment Pipe Penetrations in a Condition  
Prohibited by Technical Specifications due to Personnel Error**

Dear Sir:

The attached Licensee Event Report (LER) 95-021-00 is hereby submitted as required by 10 CFR 50.73. This event is the type defined in 10 CFR 50.73 (a)(2)(i)(B).

The Authority is making no new commitments in this letter.

Very truly yours,

A handwritten signature in black ink, appearing to read 'L. M. Hill'.

L. M. Hill  
Site Executive Officer  
Indian Point 3 Nuclear Power Plant

LMH/vjw

Attachment

cc: See next page

240121

9510260011 951018  
PDR ADDCK 05000286  
S PDR

*JE221*

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

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

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

## 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 3

DOCKET NUMBER (2)

05000

PAGE (3)

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TITLE (4)

Vapor Containment Pipe Penetrations in a Condition Prohibited by Technical Specifications due to Personnel Error

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
09	19	95	95	-- 021 --	00	10	18	95	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)		✓ 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)	
			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

Frank Conte, System Engineer

TELEPHONE NUMBER (Include Area Code)

(914) 736-8316

## 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
A	BD	PEN	C310	N					

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	✓ NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On September 19, 1995, with the reactor in the cold shutdown condition, several deviations were discovered in the weld channel and containment penetration pressurization system (WCCPPS). Three of the four WCCPPS supply lines originally connected to containment penetration 00 and 0101 were found disconnected, resulting in a portion of the WCCPPS not capable of being pressurized contrary to the Indian Point 3 Technical Specification (TS) Sections 3.3.D.1.a. and 4.4.C.1. A day earlier, WCCPPS was found not to be supplied to a spare process line 474, which is routed through penetration RR. The cause of these deviations was personnel error and inadequate management of design and maintenance activities. Contributing factors also included in-adequate system knowledge. Corrective actions included connecting the three disconnected WCCPPS supply lines and, supplying WCCPPS to line 474.

**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 September 19, 1995, at approximately 20:40 hours, with the reactor in the cold shutdown condition, (reactor power level 0, reactor coolant temperature at 108 degrees fahrenheit and pressurizer level at 38 percent) a system engineer performing a walk down of the WCCPPS found three of four supply connections disconnected from containment penetration numbers 00 and 0101. The walkdown was being conducted as part of the extent of condition review of corrosion in stainless steel piping and pipe caps used in containment penetrations (See LER 95-019-00). Further inspection revealed that spare penetration 0101 was filled with water to a level approximately even with the WCCPPS supply connection at the welded pipe cap for this spare penetration in the vapor containment (VC) sump.

Containment penetrations 00 and 0101 connect the VC sump with the primary auxiliary building (PAB) at approximately elevation 39'. Penetrations 00 and 0101 run between the smaller overflow section of the sump and the PAB. Penetration 00 contains safety injection system (SIS) line number 57, which connects the vc sump to the residual heat removal (RHR) pumps. This pipe is contained within a concentric penetration sleeve and terminates in a leak-tight compartment. The first of the lines' two containment isolation valves (SI-MOV-885A) is inside this leak-tight compartment commonly called mini-containment, which is an extension of the primary containment pressure boundary. Penetration 0101 is a "spare" 22-inch outside diameter pipe with welded caps on both ends.

The WCCPPS system continuously pressurizes the positive pressure zones incorporated into the containment penetrations and the weld channels over the welds in the containment building steel liner. It also pressurizes the spaces between certain gasketed seals and containment isolation valves. The WCCPPS continuously monitors the integrity of the containment penetrations, containment weld channels, and certain gasketed seals and containment isolation valves and thus, limits radioactive releases in the event of a loss-of-coolant accident when above cold shutdown. Although the system has been designated as an Engineered Safety Feature system, its operation is not credited in IP3's offsite radiation dose calculations.

Penetrations 00 and 0101 each have WCCPPS supplies at two locations. WCCPPS air for penetration 00 is supplied to the welds between the sump liner and penetration sleeve and the penetration sleeve end plate and the SIS pipe. On penetration 0101, WCCPPS air is supplied to the weld between the sump liner and penetration sleeve and the interior volume of the spare penetration through its welded end cap.

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As part of the extent of condition review for water found in the WCCPPS, water was also discovered in penetration 0101 and its WCCPPS supply line. The water inside penetration 0101 was confirmed by chemical analysis to be water normally found in the sump. The recent findings of water in the WCCPPS was discussed and evaluated in IP3-RPT-VC-01594 Revision 0 discussed in LER 95-019-00. Also, LER 89-009-00 discussed an event where water was found in zone 2 of the WCCPPS.

On September 18, 1995, during other walkdowns of the WCCPPS, it was discovered that spare process line 474, routed through containment penetration RR, was not connected to the WCCPPS. Investigation of this line's history determined it was made a spare during a modification in 1985. A review of associated documents (FSAR, TS, original FSAR, plant manual and the containment integrity design basis document), did not explicitly indicate a design basis requirement for WCCPPS to be provided to this line. However, during review of other WCCPPS concerns (LER 95-019-00), WCCPPS was added to this spare line as good engineering practice and consistency with other WCCPPS spare penetrations and piping.

**CAUSE OF THE EVENT**

The disconnection of the penetration 00 and 0101 WCCPPS lines is attributed to personnel error following 1989 maintenance activities. This error resulted in an unauthorized modification to the facility. A work request, dated June 2, 1989, was written to investigate a problem with WCCPPS line to basemat floor zone 4 fed from WCCPPS Rack 14. The half inch carbon steel tubing, which supplies air from the WCCPPS to basemat floor zone 4, tees off to supply containment penetrations 00 and 0101, and was apparently leaking and would not hold pressure. Tests conducted on the tubing segment between the rack and the VC floor penetration for the sump indicated the leak was in a portion of the tubing, downstream of the floor penetration in the area of the VC sump. This line branches out to serve four connection points, 2 per penetration. Only one of these, the one connection to the cap on spare penetration 0101, is visible. The remaining three connections are embedded in concrete.

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As such, it appears the service of the cut line was misunderstood. The probable cause was an oversight resulting from lack of understanding and the then existing work practices, which have since been improved. Contributing factors include lack of system knowledge and, poor review and management of pre- and post-maintenance activities which resulted in in-adequate post-maintenance testing.

Prior to the containment penetration RR modification number, 84-03-022 RCS, line 474 was gas filled and used to test level transmitter LT-458A with a remote dead-weight tester. The modification changed the design of transmitter LT-458A and as a result, the dead-weight tester was no longer necessary. Line 474 was cut and capped as part of the modification, however WCCPPS was not connected to it due to less conservative engineering controls over modifications at that time.

**CORRECTIVE ACTIONS**

Additional corrective actions associated with these events are described in LER 95-019-00.

To prevent recurrence, the following corrective actions have been taken:

1. A determination was made of those individuals associated with the 1989 sump penetration work request and still working at IP3, who should be counseled about their past work practice. The personnel were counseled. This action is complete.
2. The three as-found disconnected supply lines at penetration 00 & 0101 were reconnected to the WCCPPS. In-situ testing was conducted on the embedded WCCPPS carbon steel tubing to verify its integrity. The leak rate was determined acceptable. New field-run stainless steel tubing was reconnected to the carbon steel tubing located above the sump. This action is complete.
3. The wall of the VC sump was excavated to locate the original WCCPPS tubing connection to spare penetration 0101. The tube was capped at the wall and the sump excavation area was sealed and painted. This action is complete.

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4. The water in spare penetration 0101 was drained and the interior dried. The penetration was examined using ultrasonic testing around its circumference from the PAB side. The interior volume was visually inspected using a boroscope. The condition of this penetration is acceptable. This action is complete.
5. A 1 inch drain and cap was installed on spare containment penetration 0101. The drain and cap are installed at the bottom of the 22 inch pipe adjacent to the penetration pipe cap on the PAB side. This is the low point of the line and provides adequate drainage. This action is complete.
6. An engineering report was prepared and issued (Report No. IP3-RPT-VC-01594, dated October 4, 1995) to address several problems related to the WCCPPS. The report also addresses the events of this LER. (Also see LER 95-019-00). This action is complete.
7. Process line 474 in containment penetration RR was cut, capped and connected to the WCCPPS. This action is complete.
8. Implementation of the Deviation Event Report process, analysis methods and training, in 1994, addresses the process weakness that contributed to the limited review performed for LER 93-012-00. This action is complete.
9. To preclude this event from happening in the future, the following programs and work practices have been developed during the 1994 restart outage at IP3: a) an improved work control and retest program was developed, b) a system engineering program was implemented, (system engineer found the disconnected WCCPPS at the sump penetration), c) an improved engineering modification control program was developed in the late 1980's, and d) a questioning attitude has been fostered throughout IP3. Together, these actions should preclude a future occurrence of a similar event. These actions are complete.

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**ANALYSIS OF THE EVENT**

The disconnection of WCCPPS to the 00 and 0101 penetrations is prohibited by Indian Point 3 TS section 3.3.D.1.a, which requires that all portions of the four WCCPPS zones are pressurized above 43 psig when above cold shutdown, and TS section 4.4.C.1, which discusses sensitive leak rate testing. Therefore, the event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) because the plant was operated in a condition prohibited by the plant's technical specifications.

LER 93-012-00 reported a similar event where four WCCPPS supply lines were found disconnected apparently following the December 1990 ILRT. Corrective action from that event failed to find the disconnected WCCPPS to penetrations 00 and 0101.

**SAFETY SIGNIFICANCE**

This event had no significant effect on the health and safety of the public. No credit is taken for the operation of the WCCPPS System to meet the requirements of 10 CFR 100 limits for the calculation of off-site doses in the plant design basis accident analyses. This is documented in FSAR Sections 6.6.1 and 14.3.5. The WCCPPS is required to be depressurized and vented when 10 CFR 50 Appendix J type A integrated leak rate testing (ILRT) is performed. At the time that the disconnected WCCPPS at penetrations 00 and 0101 and the unconnected line 474 were discovered, the vapor containment leak rates were within design basis limits. This is evidenced by the continuous monitoring of WCCPPS leakages. An Appendix J type A test was performed successfully in 1990, subsequent to the disconnection of weld channel supply to the sump penetrations, which did verify the integrity of the sump penetration welds. The effect of finding water inside penetration 0101 was reviewed and evaluated as negligible in Report No. IP3-RPT-VC-01594 Revision 0.