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 14, 1995
IPN-95-104

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 # 95-019-00
LER For Completing a Technical Specification Required Shutdown Due to Degraded Vapor Containment Pipe Penetration Caused by An Earlier Inadequate Corrective Action

Dear Sir:

The attached Licensee Event Report (LER) 95-019-00 is hereby submitted as required by 10CFR50.73. This event is of the type defined in 10 CFR 50.73 (a) (2) (i) (A) . Also, attached are the commitments made by the Authority in this LER.

Very truly yours,

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

Attachment

cc: See next page

190062

IE22
1/1

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

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

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

Attachment I
List of Commitments

Number	Commitment	Due
IPN-95-104-01	Operations will revise surveillance test, 3PT-W16, "Penetration Test for Water Leakage" to include testing of the SS penetration.	October 30, 1995
IPN-95-104-02	Engineering will evaluate the need to open selected penetrations during the Refueling Outage-9 outage to inspect their material condition.	January 30, 1996
IPN-95-104-03	Engineering will evaluate the merits of adding flow through test capability to the spare lines of penetration ZZ and spare lines of other penetrations to enable draining of these lines should water be introduced in the future.	April 1, 1996
IPN-95-104-04	Engineering will ensure penetrations that have residual moisture are dried to lower levels during the Refueling Outage-9.	December 1, 1996

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

APPROVED BY OMB NO. 3150-0104
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	05000	1 OF 5

TITLE (4) LER FOR COMPLETING A TECHNICAL SPECIFICATION REQUIRED SHUTDOWN DUE TO DEGRADED VAPOR CONTAINMENT PIPE PENETRATION CAUSED BY AN EARLIER INADEQUATE CORRECTIVE ACTION

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	16	95	95	-- 019 --	00	10	14	95		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)	✓	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	TELEPHONE NUMBER (Include Area Code)
Frank Conte, System Engineer	(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
E	BD	PEN	C310	N						

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	✓ NO				

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

On September 16, 1995, with the reactor in the hot shutdown condition, during a review to determine the extent of condition for degraded caps on spared pipes in containment penetrations, management decided to commence a plant cooldown to cold shutdown. This decision was based on finding, by radiograph, a second through wall crack in the cap on the inboard side of a spared pipe. A similar cap flaw was found earlier on the outboard side of the same pipe. Vapor containment leak rate was within design basis since air pressure to this spare pipe was maintained above peak accident pressure. Weld Channel and Containment Penetration Pressurization leakages were monitored continuously to be within limits specified in the Technical Specifications. A one-hour non-emergency report to the NRC was made. The cooldown to cold shutdown was completed. The cause of the event was inadequate corrective action due to a limited engineering review for the extent of condition when service water leaked into a containment penetration during 1989. Corrective actions include, the implementation of the Deviation Event Report process in 1994, replacement of the welded caps to the spared pipes in the containment penetrations, and draining and drying to acceptable levels the spared pipes in containment penetrations.

DESCRIPTION of EVENT

On September 16, 1995, the reactor was in a hot shutdown condition, (reactor power level 0, reactor coolant system temperature of 547 degrees, 2235 psig, pressurizer level at 23 percent). During examination of the spare inboard pipe lines in the ZZ containment penetration, radiographs indicated a through-wall crack on the pipe line C end cap. This same pipe line was examined earlier and found to have a similar through-wall crack and a slight leak on the outboard pipe cap. As a result, both the inboard and the outboard pipe caps on this pipe contained through-wall cracks potentially rendering the line incapable of performing its intended containment integrity function. At 0300 hours, penetration ZZ was declared inoperable and a limiting condition for operation (LCO) for Technical Specification 3.6.A.3 was entered for containment integrity. This LCO requires restoring containment integrity within 1 hour or within the next 30 hours bring the plant to cold shutdown, a total of 31 hours when starting in hot shutdown condition. At 0400 hours, operators entered plant shutdown procedures to proceed to cold shutdown. A one-hour non-emergency report was made to the NRC at 0441 hours (NRC Log# 29342).

The Weld Channel and Containment Penetration Pressurization (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. Penetration ZZ is required to be pressurized when above cold shutdown. Line C of penetration ZZ was maintained pressurized and considered operable, per Operability Determination 95-041 on September 8, 1995, with a minor leak on its outside pipe cap. On September 15, radiography of the inside containment pipe cap on line C of penetration ZZ showed indication of a through wall crack, but no detectable leak path was apparent. Even though the inside pipe cap did not have a leak path that was detectable, plant management decided to commence a Technical Specification (Section 3.6.A.3) required shutdown. On September 17, 1995, at 0932 hours, the plant achieved cold shutdown.

CAUSE of the EVENT

The cause of the event was inadequate corrective action due to a limited engineering review of the extent of condition for a containment penetration service water leak in 1989 (see LER 89-009-00). In 1989, the significant occurrence report process was weak in requiring an extent of condition review. Therefore, the engineering review did not specify adequate corrective actions to remove service water from several spare containment penetrations connected to Zone 2 of the WCCPPS. A factor contributing to the inadequate corrective action was that these penetrations were designed without flow through test (drain) connections. Thus, service water was allowed to remain inside a crevice formed by the pipe/cap socket weld on line C of penetration ZZ and other spare penetrations and lines. The stagnant service water contained chlorides and was low in oxygen. This disrupted the protective chromium oxide layer which allowed inter-granular cracking due to crevice corrosion to attack the stainless steel caps. Stagnant water in the pressurized spare pipe was leaking through the outside pipe cap as was identified in DER 95-2062 on September 8, 1995. Later, it was determined through radiography that inter-granular corrosion cracking had resulted in indicated flaws in other spare containment pipe caps as well.

CORRECTIVE ACTIONS

In order to prevent recurrence, the following corrective actions have been or shall be taken:

- Implementation of the Deviation Event Report process, analysis methods and training, in 1994, addresses the process weakness that contributed to the limited engineering review performed for 1989 event. This action is complete.

- Service water was drained from all the spare pipes in Penetration ZZ and the pipes were flushed, dried and inspected prior to replacing the caps. This action is complete.

- Pipe caps of penetration ZZ line C and others where flaws were detected have been replaced. This action is complete.

- The extent of condition review of the WCCPPS System as a result of discovering water leaking from a stainless steel spare pipe with welded caps at penetration ZZ led to the discovery of several other problems related to the containment penetrations, weld channels and associated components. The extent of condition of the WCCPPS was reviewed in Report: IP3-RPT-VC-01594 Revision 0, dated October 4, 1995, "Condition of Containment Penetrations and Weld Channels Found Containing Water." The report summarizes the results of actions taken and completed engineering inspections and tests of various WCCPPS zones found to contain water. Essentially all of the water in suspect penetrations and weld channels was removed, analyzed, and the weld channels and containment penetrations were made as dry as practical. Suspect pipe caps were radiographed and those found with indicated flaws including the three caps found with through wall cracks were replaced. WCCPPS was restored to agree with the IP3 design requirements. This action is complete.

- Operations will revise surveillance test, 3PT-W16, "Penetration Test for Water Leakage" to include testing of the SS penetration. This revision is due October 30, 1995.

- Engineering will evaluate the need to open selected penetrations during the Refueling Outage-9 outage to inspect their material condition. This evaluation is due January 30, 1996.

- Engineering will evaluate the merits of adding flow through test capability to the spare lines of penetration ZZ and spare lines of other penetrations to enable draining of these lines should water be introduced in the future. This action is due April 1, 1996.

- Engineering will ensure penetrations that have residual moisture are dried to lower levels during the Refueling Outage-9. This activity will be completed by December 1, 1996.

ANALYSIS of EVENT

The event is reportable under 10 CFR 50.73 (a) (2) (i) (A). The licensee shall submit a License Event Report on the completion of any nuclear plant shutdown required by the plant's Technical Specifications. LER 89-009 reported a similar event involving water being found in the WCCPPS from a leaking service water line.

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. In addition, previous sensitive leak rate testing and Appendix J Type B or C testing, demonstrated leakage past containment isolation barriers was well within Appendix J limits. At the time that the cap flaw was discovered, the vapor containment leak rates were within design basis limits. This was evidenced by the continuous monitoring of WCCPPS leakages. The effect of the continued presence of water or moisture on the carbon steel or stainless steel components, piping and penetrations within the WCCPPS has been evaluated as negligible in Report No. IP3-RPT-VC-01594 Revision 0.