NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit 3	0 5 0 0 0 2 8 6	1 OF 0 8

TITLE (4)
Weld Channel and Containment Penetration Pressurization Supply Line Disconnect, Caused By Personnel Error, Placed Plant Outside Design Basis.

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 NAMES	DOCKET NUMBER(S)
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0 4	0 6	9 3	9 3	0 1 2	0 0	0 5	0 7	9 3		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 0 0	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 (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	X 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
Federico Perdomo, Licensing Engineer	AREA CODE 9 1 4 7 3 6 8 0 2 9

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)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On April 6, 1993, with the plant in the cold shutdown condition, a quality control inspector found a disconnected Weld Channel and Containment Penetration Pressurization (WCCPP) supply line which leads to four lines in penetration "RR". The disconnected line resulted in a configuration where only one boundary existed between the Vapor Containment (VC) and the Primary Auxiliary Building (PAB) atmosphere. The event placed the plant outside its design basis because the Final Safety Analysis Report requires two barriers between the VC and PAB atmospheres. This condition is prohibited by Indian Point 3 Technical Specification sections 3.6.A.1 and 3.3.D.1.a. The disconnect most probably occurred during Integrated Leakage Rate Test (ILRT) preparation work for the ILRT completed on December 2, 1990. The event is attributable to human error (error in judgement) in that procedures were not followed. Maintenance reconnected the WCCPP line on April 7, 1993. Operations and Performance managers have apprised their personnel of the requirements for system configuration control and the ILRT test will be revised and reviewed for completeness. The WCCPP check off list will be revised for adequacy.

DESCRIPTION OF EVENT

On April 6, 1993, with the plant in the cold shutdown condition, a quality control (QC) inspector found a disconnected 3/8" Weld Channel and Containment Penetration Pressurization (WCCPP)(BD) supply line which leads to lines 866, 867, 868, and 869 in containment penetration "RR" (see attached Figure 1). Lines 867 and 868 are utilized during the performance of the Integrated Leakage Rate Test (ILRT) and lines 866 and 869 are spares. Three of the ILRT test lines (866, 867, and 868) are closed at both ends by gasketed blank flanges and line 869 is capped at both ends. A WCCPP supply line runs directly to penetration "RR" and branches to feed the four leak rate test lines. Valve GLV-17 is a WCCPP isolation valve located on the line leading to the four ILRT test lines. This valve was found closed and capped downstream of the valve and the line leading to the four ILRT test lines was found open. This disconnect resulted in a configuration where only one boundary existed between the Vapor Containment (VC) and the Primary Auxillary Building (PAB) atmosphere.

The WCCPP system continuously pressurizes the positive pressure zones incorporated into the containment penetrations and the channels over the welds in the steel liner. This provides continuous monitoring of penetrations and weld integrity and limits the radioactive releases in the event of a Loss-of-Coolant Accident when above cold shutdown. Both penetration "RR" and the four lines mentioned above are required to be pressurized when above cold shutdown. Penetration "RR" has been pressurized as required because its WCCPP supply was never disturbed. However, the four ILRT test lines were not pressurized because of the disconnect in their WCCPP supply line.

The WCCPP supply line was most probably disconnected during ILRT preparation work which was required for the ILRT conducted during the 7/8 refueling outage. The ILRT was completed on December 2, 1990 and the 7/8 refueling outage ended on December 23, 1990. Since that time the plant has operated almost continuously with the exception of the 8/9 refueling outage which ran from April 18, 1992 through August 3, 1992. Containment integrity was required for the periods of time when the plant was above cold shutdown, refueling, or in mid-loop operation.

At approximately 1500 hours on April 6, 1993, the QC inspector noticed the condition while covering an Instrumentation and Control (I&C) job adjacent to penetration "RR". Maintenance reconnected the WCCPP supply line at approximately 2141 hours on April 7, 1993. The event was determined to be reportable at 1737 hours on April 12, 1993 and a one hour report was made to the Commission's Operations Center, as required by 0CFR50.72(b)(1)(ii)(B), to report that the event had placed the plant outside its design basis.

INVESTIGATION OF EVENT

The Authority's investigation of the event has not revealed direct evidence which documents the occurrence of the disconnect. The investigation has revealed that certain preparatory ILRT work activities, which were required during the 7/8 refueling outage, were performed in violation of established procedures. The investigation did reveal deficiencies with the Integrated Leak Rate Test (3PT-3Y1). The test deficiencies contributed to the procedural violations in that ILRT preparatory work was performed in violation of established work control procedures. However, the test does not require the disconnect of the WCCPP supply line which was discovered. The subject disconnect is not required by any procedure or work list generated by work requests or modifications. Therefore, the strongest evidence indicates that the disconnect occurred during the ILRT preparatory activities during the 7/8 refueling outage.

The Performance supervisor directed technicians to perform a leakage integrity check of the ILRT test lines (867 and 868) prior to performing the ILRT. The leakage check evolution was not performed under the control of an ILRT procedure change or work request. Also, a Performance technician was directed to install a connecting line (flanged spool piece) from the ILRT test booth to penetration "RR" in an effort to assure that all preparatory work was complete. However, the work request only authorized the Maintenance department to install the line. In the interest of completing the ILRT preparatory activities within schedule, the Performance supervisor directed technicians to install the connection line outside of the control of the approved work request.

The event investigation revealed that the ILRT test is deficient in several ways. Direction is not provided to assure that an integrity check of the ILRT test lines is performed. This integrity check of the lines assures that the ILRT will not be affected by a leak at the very lines used to monitor pressure and flow during the ILRT. The ILRT test lacks detail which would assist the user in understanding test steps. For example, the step which requires the lineup of the VC pressure sensing line and flow verification line does not mention that these lines are located in penetration "RR". The step also does not make a mention of the WCCPP isolation valve (GLV-17), which is normally closed for the ILRT, or how WCCPP should be correctly isolated during the performance of the ILRT. The ILRT test does not address the need to perform an "As-Left" leak test of penetration "RR" once the ILRT is completed. The test also does not provide clear direction which would assure that the correct WCCPP lineup is restored upon ILRT completion.

CAUSE OF THE EVENT

The cause of the event was personnel error (error in judgement) in that the Performance supervisor directed ILRT preparatory work activities which were performed in violation of established procedures. The WCCPP disconnect was performed outside of the control of the ILRT test (3PT-3Y1) and the work control process. Procedures directing the isolation, changes to piping configuration and restoration of systems were not used. Procedures were in effect that direct changes to system configuration. Administrative Procedures AP-9, "Work Control", AP-10, "Clearances", AP-10.1, "Operating Orders and Control of Stop Tags, Do Not Operate Tags and Locks", and AP-13, "Temporary Modification Procedure" provide that direction.

A condition which is not the root cause but would have provided a mechanism for identifying the disconnect earlier would have been the inclusion of manual isolation valve GLV-17 in the WCCPP Check Off List COL-CB-2, "WCCPP System" which is required by System Operating Procedure SOP-CB-4, "WCCPP Operation". The Check Off List (COL) should have included the manual isolation valves for penetrations "RR", "XX" & "YY". Had the COL included GLV-17, the disconnect would have been discovered prior to startup of the WCCPP system following the 7/8 refueling outage.

CORRECTIVE ACTIONS

Performance and Operations personnel were apprised of the requirements that need to be met before changing system configurations. The Performance department met on May 5, 1993 to discuss this issue. The Operations department held a departmental meeting on March 31, 1993 regarding the importance of procedure adherence which included a comprehensive discussion of other important issues associated with the operation of the station.

Surveillance test 3PT-3Y1 will be reviewed to ensure that all changes made to plant configuration for the performance of the test are documented within the test and returned to normal at test completion. Direction for retesting of restored penetrations will be required by the surveillance test. The test will be revised by October 31, 1993.

Surveillance test 3PT-3Y1 will be revised by October 31, 1993 in order to include the ILRT test line leakage integrity check required in preparation for an ILRT. Upon revision, the test will be "walked-down" in order to review the completeness and accuracy of the test. This "walk-down" will entail a review for accuracy by analyzing if all ILRT test evolutions are provided in sufficient detail in the test and to determine if evolutions are performed in a logical sequence.

Operations will revise the COL for WCCPP to include the manual isolation valves for penetrations "RR", "XX" & "YY". The revision will be completed by May 14, 1993.

A field walkdown of piping and electrical penetrations both inside and outside of containment was performed on April 27, 1993 in order to determine extent of condition (e.g., identify other possible disconnections). This walkdown revealed that WCCPP isolation valves GLV-17, GLV-18, and GLV-19 associated with penetrations "RR", "XX", and "YY" respectively were not tagged. These valves are currently scheduled to be tagged and included in the COL as indicated above.

A review of the penetrations in the pipe penetration area has been performed to verify the status of WCCPP local isolation valves. The results of that review determined that the system status downstream of the WCCPP racks was as required.

ANALYSIS OF THE EVENT

Section 5.2 of the Final Safety Analysis Report states "The isolation valve arrangement provides two barriers between the Reactor Coolant System or containment atmosphere, and the environment." This condition was not met in that only one barrier existed between the containment atmosphere and the environment. Therefore, the event is reportable pursuant to 10 CFR 50.73 (a)(2)(ii)(B) since the plant was placed outside its design basis

The WCCPP line disconnection is prohibited by Indian Point 3 Technical Specification (TS) section 3.6.A.1 which requires that containment integrity shall not be violated unless the reactor is in the cold shutdown condition, and TS section 3.3.D.1.a which requires that all portions of the four WCCPP zones are pressurized above 43 psig when above cold shutdown. Therefore, the event is also 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.

SAFETY SIGNIFICANCE

This event had no impact on the health and safety of the public. Upon inspection, the gaskets/flanges and bolts on each side of the ILRT test lines were tight and in place. This indicated that the flanges on the inside of containment, which were the single barrier in place providing containment integrity, were found in good condition. The results of an "as-found" leak rate of penetration "RR", performed on April 23, 1993, indicated no leakage. However, the lowest detectable value of the Type B and C test rig used is 15 scc/minute. To determine the worst case situation, 15 scc/minute was added to the combined leakage rate for all penetrations and valves subject to Type B and C tests. The combined leakage was still better than the acceptance criteria of 0.60 L_a as required by 10 CFR 50 Appendix J.

The potential Environmental Qualification (EQ) aspects of the event have been analyzed. This analysis postulated the unlikely event of a Loss of Coolant Accident (LOCA) along with the instantaneous failure of the three inside VC flange gaskets located on the ILRT test lines. The analysis served to address the effects of the postulated accident's contribution to the pipe penetration environment in the PAB. The analysis concluded that no qualification deficiencies exist.

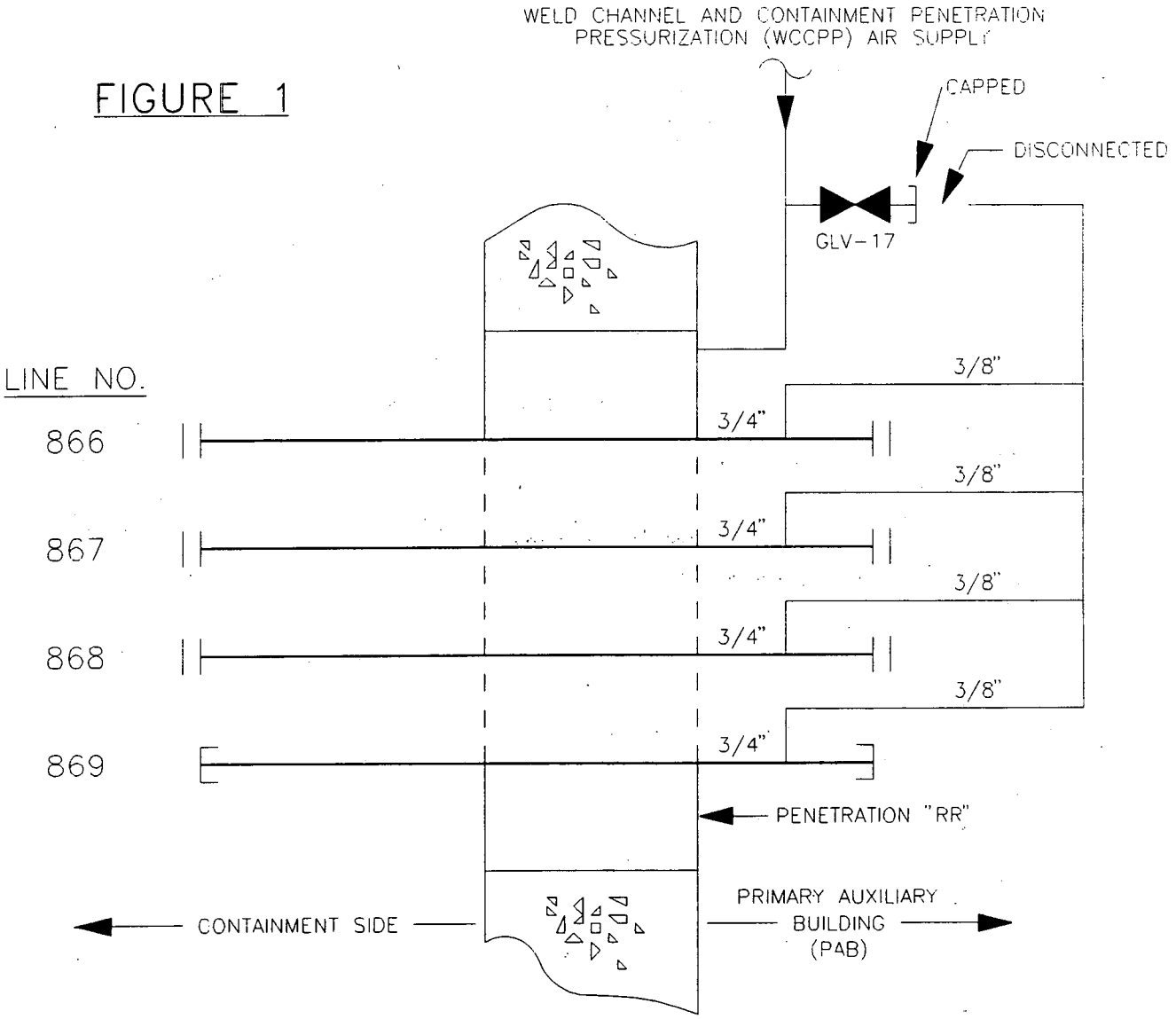
The Radiological Engineering department evaluated the impact relative to 10 CFR 100 for this event. Leakage through the 3/8" open WCCPP line considering a VC breach at one of the ILRT test lines at 24 hours after the Design Basis Event (DBE) was assessed. At 24 hours the parameter of interest with respect to 10 CFR 100 is the low population zone (LPZ) dose. With 24 hours of decay and VC atmosphere decontamination by the spray system, the resultant additional dose due to the postulated penetration failure is small and 10 CFR 100 limits would not have been exceeded.

In order to determine extent of condition (e.g., identify other possible disconnections), a field walkdown of piping and electrical penetrations both inside and outside of containment was performed on April 28, 1993. No disconnections were identified. Also, a review of the penetrations in the pipe penetration area has been performed to verify the status of WCCPP local isolation valves. The results of that review determined that the system status downstream of the WCCPP was as required.

SECURING FROM THE EVENT

Maintenance reconnected the WCCPP supply line at approximately 2141 hours on April 7, 1993. This action restored the required configuration. The Operations Test Group successfully completed the "as-found" leak rate test of the penetration "RR" ILRT test lines on April 23, 1993.

FIGURE 1


WELD CHANNEL AND CONTAINMENT PENETRATION PRESSURIZATION (WCCPP) AIR SUPPLY
CAPPED
DISCONNECTED
GLV-17
LINE NO.
866
867
868
869
3/8"
3/4"
3/8"
3/4"
3/8"
3/4"
3/8"
3/4"
PENETRATION "RR"
CONTAINMENT SIDE
PRIMARY AUXILIARY BUILDING (PAB)