NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit No. 2	0 5 0 0 0 2 4 7	1 OF 0 4

TITLE (4)

Potentially Degraded Refueling Water Storage Tank

EVENT DATE (6)			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)
0 9	2 4	8 8	8 8	0 1 4	0 0	1 0	2 4	8 8		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9):

POWER LEVEL (10): 1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

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 (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)	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 (AREA CODE)
Joseph Bahr	9 1 4 5 2 6 - 5 6 0 2

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)

While at 100% power, during an inspection of the Refueling Water Storage Tank, it was determined that the high level alarm displacer assembly was not attached to its cable which is suspended from a magnetrol device at the top of the tank. The RWST was determined to be in an unanalyzed condition and the plant was brought to hot shutdown pursuant to Technical Specification 3.0.1. A search for the missing displacer assembly did not locate the device and it was concluded that it had been removed during the 1987 Refueling outage. There was no adverse impact on public health and safety.

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PLANT AND SYSTEM IDENTIFICATION:

Westinghouse Four Loop Pressurized Water Reactor.

IDENTIFICATION OF OCCURRENCE:

Potentially degraded RWST resulted in plant operation not allowed by Technical Specifications.

REPORTABILITY DETERMINATION DATE:

September 24, 1988

REPORT DUE DATE:

October 24, 1988

REFERENCES:

Significant Occurrence Report (SOR) 88-493, 88-493-1, 88-493-2

PAST SIMILAR OCCURRENCES:

None

DESCRIPTION OF OCCURRENCE:

On Saturday, September 24, 1988, the mushroom vent on the top of the Refueling Water Storage Tank (RWST) was removed to visually observe a leak test of the steam heating coil located inside the tank. When the vent was removed for this purpose, it was observed that the cable which is attached at the top to the Magnetrol device for the high level alarm for the tank was hanging freely. The stainless steel displacer assembly which monitors the water level in the tank and a portion of the support cable itself, were missing.

Therefore, the RWST was declared to be in an inoperable condition. Since Technical Specification (TS) 3.3.A does not contain a provision for limited operation under these conditions, TS 3.0.1 was entered which requires the unit to be placed in hot shutdown within 7 hours.

At 1320 hours, a plant shutdown was initiated and at 1721 hours the unit was removed from service. A further provision of TS 3.0.1 specifies that, within the next 30 hours, either compliance with the LCO must be restored OR the plant must be placed in cold shutdown OR the plant must be placed in a condition which does not require the failed or degraded equipment to be operable. For the case of the RWST, operability is required at or above an RCS average temperature of 350°F. Therefore, by 0030 on September 25, 1988, plant conditions were reduced below 350°F and approximately 2000 psig and a detailed investigation was initiated. The pumps taking suction from the RWST (SI, CS and RHR) were never considered inoperable.

CAUSE OF INITIATING EVENT:

The cause of the event has been determined to be a result of maintenance activity performed on the RWST during the last refueling outage. When the tank cover was removed, the cable from the Magnetrol was apparently severed, leaving the severed cable and the displacer assembly loose in the tank. Subsequent discussions with contractor personnel, who were removing sludge from the tank prior to startup from the refueling outage, indicate that the displacer assembly and associated cable had been removed with the sludge and packaged as low level rad waste. Removal of the device had not then been documented or reported to Con Edison personnel. In summary, the full cause of the event was the combination of maintenance activities resulting in the apparent severing of the Magnetrol cable and the unreported removal of the cable and the displacer assembly from the RWST.

ANALYSIS OF OCCURRENCE:

When it was initially discovered that the displacer assembly was not in place and it was not known that it was not within the RWST, a conservative determination was made that it may be somewhere in the tank. A scenario thereby existed that the RWST may not fully function as and when needed. It was therefore determined that, with the assembly possibly in the tank, the RWST must be declared inoperable, resulting in entrance into Technical Specification 3.0.1, with subsequent plant shutdown. Also, a search of the RWST could not be accomplished at power without compromising the operability of the tank. While preparations were being made for a diver to enter the tank to perform a thorough search for the missing equipment, a remotely operated, submersible robotic device was used to perform a preliminary search. In parallel with this effort, interviews were held with personnel that had performed the maintenance and radwaste efforts relating to the RWST work which had been performed during the 1987 refueling outage. By the time the diver entered the tank, these

interviews revealed that it was likely the displacer assembly had been removed during RWST sludge removal performed during that outage. Documented evidence did not exist that demonstrated this was the case and our evaluation of pump operation, coordinated with periods when the RWST was filled and emptied, showed that it could have been entrained in the piping. Radiographing was, therefore, performed at the locations determined by our evaluations to be the most likely candidates for entrapment. The resulting radiographs clearly demonstrated that the displacer device was not at these locations. Likewise, the searches of the tank by the diver and robotic device revealed no indication of the missing equipment. It can therefore be concluded that the detached displacer assembly did not interfere with RWST operation and that the health and safety of the general public was not potentially or actually affected.

CORRECTIVE ACTION:

A potential deficiency was identified in contractor maintenance activities by Con Edison management and discussed with the NRC on September 25 and 26, 1988. A Conduct of Maintenance procedure is now in preparation to enhance control of contractor maintenance personnel. All such activity will be required to be performed under the Indian Point Maintenance Work Order System and the results of maintenance work will be required to be thoroughly documented and reviewed by Con Edison station personnel. It is anticipated that this procedure will be completed and implemented by the end of 1988. Maintenance on the heating coil (the initial reason for opening the tank) was successfully completed while the unit was shut down.

Stephen B. Bram
Vice President

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October 24, 1988

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 88-14-00

Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

The attached Licensee Event Report LER 88-14-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

John A. Basile

Attachment

cc: Mr. William Russell
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