Stephen B. Bram
Vice President

Consolidated Edison Company of New York, Inc.
Indian Point Station
Broadway & Bleakley Avenue
Buchanan, NY 10511
Telephone (914) 737-8116

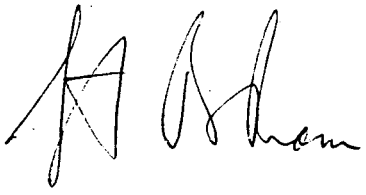
May 29, 1990

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 90-02-00

Document Control Desk
US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

The attached Licensee Event Report LER 90-02-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,



Attachment

cc: Mr. Thomas T. Martin
Regional Administrator - Region I
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Donald S. Brinkman, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
US Nuclear Regulatory Commission
Mail Stop 14B-2
Washington, DC 20555

Senior Resident Inspector
US Nuclear Regulatory Commission
PO Box 38
Buchanan, NY 10511

IE22
1/1

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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)

Refueling Water Storage Tank Minimum Volume

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)
0 4	2 7	9 0	9 0	0 0 2	0 0	0 5	2 9	9 0		0 5 0 0 0
										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)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		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
Arthur P. Ginsberg, Engineer	AREA CODE 9 1 4 5 2 6 - 5 3 5 6

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	
B	B I Q	T K									

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 8	2 6	9 0

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

Discrepancies in the calibration of the RWST level transmitters were discovered. These discrepancies had essentially no affect on the low-low level alarm setpoint. Normally a Magnetrol alarms before the Technical Specification limit on minimum required RWST level is reached. However, over a two year period the Magnetrol alarm was not available and only the level transmitters were used to monitor the minimum required RWST volume. The discrepancies could have resulted in a volume as much as 6,000 gallons below indicated. Based on a review of the data to date, no Technical Specification violation has occurred. The review is continuing to determine if any violation actually occurred. If this shortfall occurred it could have only minimal effect on the results of the accident analysis and hence there was no potential significant affect on plant safety. The Magnetrol alarm is now being used again, and the discrepancies have been corrected in the latest calibration of the transmitters.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Discrepancies were found in the calibration of level transmitters which were being used for monitoring the minimum RWST required volume for a period of time. A potential shortfall of 6,000 gallons which could have occurred was shown not to have a significant safety effect. The Magnetrol alarm is again being used for monitoring and the discrepancies have been corrected in the latest calibration of the transmitters.

REPORTABILITY DETERMINATION DATE:

April 27, 1990

REPORT DUE DATE:

May 26, 1990

REFERENCES:

SOR No. 90-195

PAST SIMILAR OCCURRENCE:

None

DESCRIPTION OF OCCURRENCE:

The Indian Point Unit 2 Technical Specifications require a minimum volume of 345,000 gallons in the Refueling Water Storage Tank. This minimum volume is normally alarmed by a Magnetrol which provides indication in the Central Control Room. It was discovered in the Summer of 1988 that the alarm was not available since November of 1987. Between that date and April, 1990, only level transmitters were available to determine minimum volume.

Independent of the above, a review was being conducted of the RWST level instrumentation and the following was discovered:

DESCRIPTION OF OCCURRENCE: (continued)

1. Overflow Drain Pipe:

   In determining the calibration factors for the transmitters, the available volume of the RWST was calculated without compensating for the 12" overflow drain pipe which is located inside the tank. For a given level, the volume of water was less by the amount of the pipe volume. This volume increases with tank level increase. The magnitude of the unavailable water is 6.63 gallons per foot or 244 gallons at the Technical specification minimum of 345,000 gallons.

2. Density Correction:

   Differential pressure level transducers were calibrated for 20°C and 0 ppm boron water. RWST water temperature can be as low as 4.4°C (40°F) with a boron concentration of 2500 ppm. The density of borated and cold water is higher than the density of pure water at 20°C thus causing the instrument to read a higher level than actual. This error increases with tank level increase. Assuming a RWST water temperature of 40°F and boron concentration of 2500 ppm the indicated level could read 4.2 inches higher than the actual at the Technical Specification minimum volume of 345,000 gallons. This would be equivalent to 3279 gallons short of the requirement.

3. Transducer Location:

   Recently, a surveyor was called in to measure various elevations relating to the RWST. It was found that both level transducers were located at a lower elevation than what was assumed in the calibration procedure. This is a constant offset to the instruments. For the transducer LT5751, the amount of error was 0.6 inch (or equivalent to 468 gallons). For the LT920 transducer, the error was 2.9 inches, or 2248 gallons.

Each of these discrepancies results in instrument over registration errors. Thus for any given reported level, the actual RWST water inventory was less than the assumed value by approximately 4,000 gallons for one transmitter and 5,800 gallons for the other transmitter.

The volume in the RWST is normally kept well above the Technical specification limit. A retrieval of data for the RWST volume from the plant computer is underway. Analysis of data for the winter of 1989-1990, the period of the largest density correction, has not indicated any Technical Specification violation.

DESCRIPTION OF OCCURRENCE: (continued)

The Magnetrol alarm has been restored. In addition the level transmitters have been recalibrated based on the factors involved.

ANALYSIS OF OCCURRENCE:

A potential maximum shortfall of 6,000 gallons could have existed in the minimum required RWST water volume. A review of the data is continuing. After reviewing a critical portion of the data, no instance of a violation was found. It was determined that the effect on the accident analysis would have been minimal even if the RWST volume was short by 6,000 gallons. The following were evaluated: Large Break LOCA, Small Break LOCA, LOCA Hydraulic Forcing Functions, Hot Leg Switchover to Prevent Boron Concentration Precipitation and Post-LOCA Long Term Cooling. No other accidents were affected and there was no significant affect on plant safety .

An evaluation also showed that the errors in the range of the low-low level alarms were very small and within the allowable error bands. Therefore, there was no significant affect on these alarms.

CAUSE OF OCCURRENCE:

Discrepancies were found in the calibration of the RWST level transmitters. Since they were being used solely for the minimum RWST volume determination rather than also having the Magnetrol alarm the discrepancies affected the volume determination. This was discovered after the Magnetrol alarm was reinstituted for use in determining minimum RWST volume.

CORRECTIVE ACTION:

The Magnetrol alarm function was restored to monitor the minimum RWST volume. The discrepancies in the level transmitter calibrations were corrected and the level transmitters recalibrated. An evaluation of all accidents potentially affected was performed and it was determined that there was no significant affect.

A Significant Occurrence Report was issued as required for an event that the Senior Water Supervisor deems that additional review may be required. By this measure, all affected Plant groups were made aware of the discrepancies in the level transmitters.