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 2	0 5 0 0 0 2 4 7	1 OF 0 4

TITLE (4)
Refueling Water Storage Tank Level Transmitters Set Points Outside Specified Levels

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 6	3 0	8 6	8 6	0 2 2	0 0	0 7	2 9	8 6		0 5 0 0 0
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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)
1 0 0		20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	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 C. Barlok, Senior Test Engineer	9 1 4 9 6 5 - 6 7 1 8 3

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 P	L T	I 2 0 4	Y							
X	B P	L T	F 1 8 0	Y							

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 June 30, 1986, with Indian Point 2 at 100% reactor power, a routine surveillance test for the two Refueling Water Storage Tank level transmitters LIC-921 (Barton Model 288) and LT-920 (Foxboro NE11GMH1A1-B) showed that the low level alarm setpoints for the instruments were outside the low level setpoint margin specification by 0.524 feet and 0.59 feet respectively. The transmitters were recalibrated. As a result of a trend evaluation of test results the surveillance interval was reduced from every refueling outage to a monthly interval. We plan to replace the Barton Model 288 with a more accurate Foxboro Model N-823DP. The public health and safety were not affected.

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Plant and System Identification:

Westinghouse 4-loop Pressurized Water Reactor

Identification of Occurrence:

During surveillance test PC-Q2, revision O, "Refueling Water Stroage Tank Level," the low level alarm setpoints for both Refueling Water Storage Tank (RWST) level channels were found outside the specified level range.

Event Date: June 30, 1986

Reference: Significant Occurrence Report (SOR) 86-227

Past Similar Occurrence: LER-80-015, LER-86-011

Description of Occurrence:

On June 30, 1986, with Indian Point 2 at 100% reactor power, a scheduled calibration (PC-Q2) of the Refueling Water Storage Tank (RWST) level instrumentation was conducted. The results of the calibration showed that the low level alarm setpoint for level transmitter LIC-921 was above the maximum specified level setting of 10.56 feet by 0.524 feet and LT-920 (bistable LC-920B) was below the minimum specified level setting of 9.9 feet by 0.59 feet. The level instruments were recalibrated and returned to service. The as-found alarm setpoints are based on the combined error in the components of the transmitters systems that provide level measurement and in the components that provide the alarm. The alarm point is set to give the operator ample warning to switch from the injection phase of safety injection for a design basis LOCA to the recirculation phase. LIC-921 is a Barton Model 288. LT-920 is a Foxboro Model NE11GMH1A1-B.

Analysis of Occurrence:

This condition is being reported because instrument drift is considered a contributing cause to the as-found condition of both instruments. Indian Point 2 Technical Specifiation 3.3.A.1.k requires the RWST low level alarm to be operable and set to alarm between 92,800 and 99,000 gallons of water in the tank. This corresponds to a level of 10.23 $\pm$ 0.33 feet.

Under hypothetical design LOCA conditions, switchover to cold leg recirculation takes place approximately 20 minutes into the event. During this time, conflicting RWST level alarms would be resolved through the diverse means of local indication and increasing containment water level. During the calibration performed on June 30, 1986 the local indication and Control Room indication were found within allowable instrument tolerance.

When cold leg recirculation is accomplished, containment spray would be continued in the injection mode until the RWST is emptied, thereby injecting into the containment an additional 80,000 gallons for long term pH control. With a slightly accelerated switchover, somewhat more than 80,000 gallons would be left for continued containment spray injection after switchover to recirculation. The redundant containment and recirculation sump level indicators provide verification that the refueling water storage tank water has been delivered during the injection phase. With a slightly delayed switchover (i.e., a late low-level alarm) somewhat less than 80,000 gallons would be left for continued containment spray injection after switchover to recirculation. During recirculation, a sump pH of 8.5 to 10 is desirable and our emergency operating procedures (EOPs) call for pH verification and adjustment, as necessary. The post accident sampling system (PASS) would be used to obtain required samples for pH verification (the PASS was not impacted by this condition). If pH adjustment is required, the EOPs contain provisions for doing so. Thus, long term pH control can be adequately accomplished.

Recirculation pump NPSH and core cooling are not impacted by this condition, since adequate water level would have been present inside containment to support cold leg recirculation. Recirculation cooling is sufficient to remove all core heat following a design basis LOCA.

The containment pressure transient would not have been impacted by this condition, since injection spray and recirculation spray with fan cooler units in various combinations are sufficient to maintain containment pressure below the design value. Injection spray continued after switchover to recirculation would have, at worst, been terminated slightly earlier than assumed in the FSAR with continued containment spray flow being provided by earlier use of recirculation spray. The public health and safety would not be affected by these conditions.

Cause of Occurrence:

A trend evaluation of test results has been performed. Based on the trend evaluation and a review of the performance required of the instrumentation, we determined that the existing instrumentation is not the most suitable for the design of the tank.

Corrective Action:

The instruments were recalibratd. The test interval has been reduced to monthly, compared to the refueling interval required by the Technical Specification. Trend evaluation of test results will be continued. We plan to replace the Barton Model 288 (LIC-921) with a more accurate Foxboro Model N-823DP. After experience has verified that this instrument performs as intended, the Technical Specification surveillance interval of every refueling outage will be resumed.

John D. O'Toole
Vice President

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July 29, 1986

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 86-022-00

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

Dear Sirs:

The attached Licensee Event Report LER-86-022-00 is hereby submitted in accordance with the requirements of 10 CFR Part 50.73.

Very truly yours,

John D. O'Toole

attach.
cc: Dr. Thomas E. Murley,
Regional Administrator - Region I
U. S. Nuclear Regulatory Commission
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