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Michael J. Colomb
Site Executive Officer

August 24, 2000
JAFP-00-0194

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Subject: **Docket No. 50-333**
LICENSEE EVENT REPORT: LER-00-007 (DER-00-03371)

**Failure to Satisfy Technical Specification Table 4.2-8 Torus Bulk Water
Temperature Calibration Requirement Due to Procedure Inadequacy**

Dear Sir:

This report is submitted in accordance with 10 CFR 50.73(a)(2)(i).

There are no commitments contained in this report.

Questions concerning this report may be addressed to Mr. John Hoddy at (315) 349-6538.

Very truly yours,

A handwritten signature in black ink, appearing to read 'M. Colomb', written over a horizontal line.

MICHAEL J. COLOMB

MJC:JRH:las
Enclosure

cc: USNRC, Region 1
USNRC, Project Directorate
USNRC Resident Inspector
INPO Records Center

JE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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TITLE (4)
Failure to Satisfy Technical Specification Table 4.2.8 Torus Bulk Water Temperature Calibration Requirement Due to Procedure Inadequacy

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
07	27	2000	00	007	00	08	24	2000	N/A	05000
									N/A	05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.2201(b)		20.2203(a)(2)(v)	X
POWER LEVEL (10)	100	20.2203(a)(1)		20.2203(a)(3)(i)	
		20.2203(a)(2)(i)		20.2203(a)(3)(iii)	
		20.2203(a)(2)(ii)		20.2203(a)(4)	
		20.2203(a)(2)(iii)		50.36(c)(1)	
		20.2203(a)(2)(iv)		50.36(c)(2)	
				50.73(a)(2)(i)	
				50.73(a)(2)(ii)	
				50.73(a)(2)(iii)	
				50.73(a)(2)(iv)	
				50.73(a)(2)(v)	
				50.73(a)(2)(vii)	
				50.73(a)(2)(viii)	
				50.73(a)(2)(x)	
				73.71	
				OTHER	
					Specify in Abstract below or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME Mr. John Hoddy, Sr. Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 315-349-6538
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On July 27, 2000 at 1205, with reactor power at 100 percent, it was determined that the most recent performance of Instrument Surveillance Procedure (ISP)-28, "SUPPRESSION POOL TEMPERATURE CALIBRATION", conducted on September 11, 1998, did not satisfy Technical Specification requirements. The procedure permitted performing a calibration check of torus (a.k.a., suppression pool) bulk water temperature instrumentation at normal torus operating temperature in lieu of performing a calibration over the entire range of operability of the instrumentation. The cause of this event is a procedural inadequacy, in that a procedure step permitted skipping the calibration section of the procedure if the calibration check was satisfied. A contributing cause was inadequate change management in that an editorial change to ISP-28 introduced the wording that permitted skipping a critical part of the procedure.

ISP-28 was revised, eliminating the wording that allowed skipping the calibration section of the procedure and incorporating additional analog subcomponents identified during evaluation of this event. The torus bulk water temperature instrumentation was calibrated using the revised ISP. Additional corrective actions include a review of analogous ISP's for similar conditions, and discussion of this event with I&C personnel.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

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EVENT DESCRIPTION

On July 27, 2000 at 1205, with the reactor power at 100 percent, it was determined that the most recent performance of Instrument Surveillance Procedure (ISP)-28, "SUPPRESSION POOL TEMPERATURE CALIBRATION", conducted on September 11, 1998, did not satisfy Technical Specification requirements due to inadequacies within the procedure. As permitted by the procedure, calibration requirements were satisfied based upon a calibration check evaluating instrument response at the existing torus bulk water temperature, instead of over its entire range of operability.

The Technical Specifications, Table 4.2-8, Minimum Test and Calibration Frequency for Accident Monitoring Instrumentation, item 9, requires calibration of Torus (a.k.a. Suppression Pool) Bulk Water Temperature Instrumentation [IM] on a once per operating cycle frequency. The Technical Specifications define "Instrument Channel Calibration" as meaning the adjustment of an instrument signal output so that it corresponds, within acceptable range, and accuracy, to a known value(s) of the parameter which the instrument monitors, and further specify that calibration shall encompass the entire instrument channel including actuation, alarm or trip.

Torus water temperature instrumentation involves two instrument channels, with multiple RTD inputs in each channel. The system measures bulk temperature by averaging sixteen dual element RTDs mounted in thermowells spaced at equal intervals around the inner periphery of the Torus. The resulting bulk temperature is displayed on redundant indicating recorders (16-1 TR-131 A & B), in the control room, and on the plant EPIC computer. Internal to the bulk temperature monitors are RTD to voltage converters, voltage to voltage converters, alarm units, recorders, indicators and output to EPIC signals. These are analog devices. There are also five summers in each division, one summer for every four RTD inputs and a final summer that sums the four previous summer outputs. This final summer provides analog outputs to the recorder and indicators and includes a 4 degrees Fahrenheit bias to compensate for the effects of stratification and for instrument inaccuracies.

ISP-28 calibration requirements for each instrument channel include an as-found channel bulk temperature check; a detailed channel calibration, including calibration of each RTD input circuit; and an alarm setpoint calibration. In the as-found check, individual RTD readings are compared with average bulk temperature under existing conditions, and are evaluated against an established tolerance. An editorial change to the procedure, incorporated in 1994, permitted skipping the detailed calibration section of the procedure if results of the as-found bulk temperature check were within tolerance. Exercising this option fails to demonstrate acceptable performance of the instrument over its entire range. This results in a failure to satisfy Technical Specification surveillance requirements and constitutes a missed surveillance.

Review determined that the calibration portion of ISP-28 was omitted in the September 11, 1998 performance of ISP-28, and in several prior performances of the said ISP. The most recent performance of ISP-28 that included completing the detailed calibration section was conducted on April 3, 1993.

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EVENT DESCRIPTION (Continued)

Torus bulk water temperature instrumentation was declared inoperable at 12:05 P.M. on July 27, 2000, based upon the missed surveillance. A temporary change was made to ISP-28, eliminating the wording that permitted skipping the calibration portion of the procedure, and the procedure was performed in its entirety on July 27 & 28, 2000. One RTD was found to be slightly out of tolerance (as-found value) in the conservative direction.

During evaluation of this event, it was identified that analog components (Analog to Digital and Digital to Analog converters) in the summer portion of the instrument channel should also be calibration checked over their range. These components are not adjustable, but can contribute to overall instrument channel inaccuracy. ISP-28 was revised to include checking these components over their range and was performed in its entirety on July 31, 2000. One summer was found to be out of tolerance by -0.4 degrees Fahrenheit and was replaced. This condition was evaluated and found to be bounded by the 4 degrees Fahrenheit overall conservative bias within the instrument channel. Torus bulk temperature monitoring was restored to an operable status on August 2, 2000 at 12:20 PM.

CAUSE OF THE EVENT

The event was caused by procedural inadequacies [Cause Code D] which permitted critical portions of the surveillance to be skipped. The procedure permitted using as-found single point results to substitute for the required calibration.

A secondary event cause was inadequate change management [Cause Code E] in that critical portions of the procedure were changed, in effect omitted, via an editorial change.

ANALYSIS OF THE EVENT

This event is not significant from a safety or operational perspective. Although, as performed, the previous test did not evaluate instrument channel performance over its operating range, the test demonstrated that the instrument channels were operating, and that the channels exhibited acceptable response at normal torus temperatures. The successful completion of the revised ISP-28 on July 28, 2000 showed thirty-one of thirty-two RTD inputs to be within tolerance (as-found), with the remaining input 0.2 degrees Fahrenheit out of tolerance in the conservative direction. The revised and expanded ISP-28 performed July 31, 2000 found one component -0.4 degrees Fahrenheit out of tolerance, within the conservative offset built into the instrument channel. In both cases, the instruments demonstrated acceptable performance over the operating range.

This event does not adversely impact the ability of any plant equipment to perform it's intended function. Therefore, none of the performance indicator cornerstones identified in NEI 99-02 (Draft Rev D.) are applicable.

EXTENT OF CONDITION

A review was conducted of analogous Instrument Surveillance Procedures. It was determined that the condition was limited to ISP-28 and did not extend to other ISP's.

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CORRECTIVE ACTIONS

1. ISP-28 was revised to require performance of the calibration section of the procedure. The ISP was further revised and expanded to include the summers. **(Complete)**
2. A review of similar Instrument Surveillance Procedures was performed to assure the applicable range of the instrument channel(s) is tested. **(Complete)**
3. LER-00-007 and associated DER-00-03371 will be discussed with I&C Department line and staff personnel. **(Scheduled Completion Date: September 30, 2000)**

PREVIOUS SIMILAR EVENTS

None.