

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 3 8 7 1				PAGE (3) 1 OF 0 2									
TITLE (4) High Sodium Pentaborate Concentration in SBLC Tank.																							
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	0	4	8	4	8	4	0	2	3	0	0	0	5	0	4	8	4	0	5	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																					
1		20.402(b)				20.405(e)				50.73(a)(2)(iv)				73.71(b)									
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(e)(1)				50.73(a)(2)(v)				73.71(e)									
11010		20.405(a)(1)(ii)				50.36(e)(2)				50.73(a)(2)(vi)				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)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																							
NAME L.A. Kuczynski - Nuclear Plant Specialist-III										TELEPHONE NUMBER 7 1 7 5 4 2 - 3 7 5 9													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																							
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC													
X	BIR	ABIS	*	N																			
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 4, 1984, the 31-day Chemistry surveillance of the Unit 1 Standby Liquid Control (SBLC) system indicated that the sodium pentaborate (Na ₂ B ₁₀) concentration in the SBLC tank was 14.33%. This value is above the Technical Specification limit for the tank volume at the time of sampling. Demineralized water was added and the tank air sparged for approximately one hour. The solution was retested and the final Na ₂ B ₁₀ concentration was within Tech. Spec. limits.																							
8405080034 840504 PDR ADOCK 05000387 S PDR																							

*Not Applicable

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)

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Susquehanna Steam Electric Station
Unit 1

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

On April 4, 1984, with the unit operating at 100% power, air sparging of the Standby Liquid Control (SBLC) tank commenced at 0233 in preparation for the 31-day Chemistry surveillance of the Unit 1 SBLC system. A sample was drawn from the tank at 1330 and air sparging secured at 1402. Limiting Condition for Operation (LCO) 3.1.5 was entered at 1700 when it was indicated that the 'As Found' sodium pentaborate (Na_2B_{10}) concentration was 14.33% vs. the Technical Specification limit of 13.8%. Actions commenced to drain 200 gal. from the SBLC tank, refill the tank with 250 gal. of demineralized water and initiate air sparging for approximately one hour. A sample drawn at 2115 had a concentration of 13.15%; the LCO was cleared at 2200.

Tech. Specs. require greater than or equal to 5500 lbs. boron to be maintained in the storage tank, but limit boron concentration to 13.8%. Since storage tank volume is normally maintained between 4800-4850 gallons, the Chemistry group tries to maintain boron concentration at approximately 13.5% to remain in the center of the Tech. Spec. approved region. A Tech. Spec. change is under development to modify the upper limit of allowable boron concentration in the SBLC tank.

The adverse effect of having a greater than specified Na_2B_{10} concentration is associated with the possibility of the boron recirculating through the core in uneven concentrations upon injection. This could cause reactor power to rise and fall cyclically. However, the pounds of Na_2B_{10} available for injection were always greater than the Tech. Spec. limit of 5500, which would assure a complete reactor shutdown. Also, the solution temperature was 90°F or greater, which would preclude Na_2B_{10} crystallization. The Control Rod Drive system was operable throughout this event and would have operated to shut down the reactor if required.



Pennsylvania Power & Light Company

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SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 84-023-00
ER 100450 FILE 841-23
PLA-2194

Docket No. 50-387
License No. NPF-14

Attached is Licensee Event Report 84-023-00. This event was determined reportable per 10CFR50.73(a)(2)(i), in that the 31-day Chemistry surveillance of the Unit 1 Standby Liquid Control (SBLC) system indicated the sodium pentaborate concentration in the SBLC tank to be greater than the value allowed in Technical Specification 3.1.5. The concentration was returned to within limits in less than five hours.

H.W. Keiser
Superintendent of Plant-Susquehanna

LAK/pjg

cc: Dr. Thomas E. Murley
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