



Commonwealth Edison

Zion Generating Station
Shiloh Blvd. & Lake Michigan
Zion, Illinois 60099
Telephone 708 / 746-2084

December 10, 1990

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

Dear Sir:

The enclosed Licensee Event Report number 90-024-00, Docket No. 50-295/DPR-39 from Zion Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(i), which requires a 30 day written report when a condition has occurred that is prohibited by the plant's Technical Specifications.

Very truly yours,

T. P. Joyce
for T. P. Joyce
Station Manager
Zion Generating Station

TPJ/dmg

Enclosure: Licensee Event Report

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

1116D

000204

9012140005 901210
PDR ADOCK 05000295
S PDC

IE22
111

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Zion Unit 1	Docket Number (2) 0 5 0 0 0 2 9 5	Page (3) 1 of 0 3
Title (4) Missed Pressurizer Boron Sample due to Personnel Error		

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)
1 1	1 0	9 0	9 0	0 2 4	0 0	1 2	1 0	9 0	N/A	

OPERATING MODE (9) POWER LEVEL (10) 0	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
		<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
		<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
		<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)
		<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
		<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
		<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
Name Quane Hemmerle, Chemistry Department	ext. 2235	AREA CODE 7 0 8	7 4 6 - 2 0 8 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS
				N					

SUPPLEMENTAL REPORT EXPECTED (14)	Expected Submission Date (15)	Month	Day	Year
<input checked="" type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO			

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

On November 10, 1990 Unit 1 was in Mode 3, with a reactor coolant system (RCS) heatup in progress. During this condition, Technical Specification 4.2.1.B requires that the RCS loop and pressurizer be sampled and analyzed for boron concentration, every four (4) hours, to verify shutdown margin. On November 10, 1990 a RCS loop sample and a pressurizer sample were obtained at 1200 and 1210 respectively.

The next RCS loop sample was obtained at 1610, however the pressurizer sample was not obtained. The pressurizer sample was obtained at 1720, five hours and 10 minutes after the previous sample. Therefore sampling of the pressurizer did not meet the four hour surveillance requirement.

The root cause of the event was a cognitive personnel error by a Chemistry Technician. A contributing cause was informality of the turnover process.

The immediate corrective action was to take the required sample. Additional actions include formalizing the turnover process, training for Chemistry Department personnel, and a complete review of the conditional surveillance program. The safety significance was minimal, as boron samples before and after the event verified that adequate shutdown margin existed during the event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
Zion Unit 1	0 5 0 0 0 2 9 5	9 0	- 0 2 4	- 0 0	0 2	OF	0 3

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

A. CONDITION PRIOR TO EVENT

MODE 3 - Hot Shutdown RX Power 0% RCS [AB] Temperature/ Pressure 495 °F/ 2235 psig

B. DESCRIPTION OF EVENT

On November 10, 1990 Unit 1 was in Mode 3, hot shutdown. A reactor coolant system (RCS) heatup was in progress. During this condition, Technical Specification 4.2.1.B requires that the RCS loop and the pressurizer be sampled and analyzed for boron concentration, every four (4) hours, to verify shutdown margin. On November 10, 1990 a RCS loop sample and a pressurizer sample were obtained at 1200 and 1210 respectively.

The next RCS loop sample was obtained at 1610, however the pressurizer sample was not obtained because it was thought that the sample valve was inoperable. At approximately 1700, while the CT was entering data on the day shift chemistry data form, he noticed that results for the Unit 1 pressurizer had been reported, and realized an error may have been made. The CT then called the Operating Department and asked if a sample should be taken. The response was yes. The pressurizer sample was obtained at 1720, five hours and 10 minutes after the previous sample. Therefore sampling of the pressurizer did not meet the four hour surveillance requirement.

C. APPARENT CAUSE OF EVENT

A formal HPES investigation was performed for this event. The root cause of the event was a personnel error by a Chemistry Technician. The error was a cognitive error in that the technician did not understand the sampling importance required by the Unit's status (i.e. heatup in progress). The CT was also not cognizant that the Unit 1 pressurizer sampling was a Technical Specification requirement and therefore must be obtained.

One contributing cause was the lack of established guidance for the turnover process. Shift turnover from the day shift to the afternoon shift occurred at 1500. The turnover from the day shift Chemistry Technician (CT) to the afternoon shift CT was essentially a verbal turnover, and lasted approximately five minutes. The day shift CT informed the afternoon shift CT of the following:

1. RCS loop and pressurizer samples were due every four hours on Unit 1.
2. The pressurizer sample valve on Unit 2 was inoperable, but sampling was not required.
3. Two lake discharge tank release forms requiring double sampling were to be completed.
4. Various analyses from dayshift primary chemistry samples were to be completed.

The afternoon CT was reviewing the work to be performed while the verbal turnover took place. The afternoon CT exited the turnover with the misconception that it was the Unit 1 pressurizer sample valve that was inoperable, and a sample was not needed.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Zion Unit 1	0 5 0 0 0 2 9 5	9 0	-	0 2 4	-	0 0	0 3	OF	0 3	

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

C. APPARENT CAUSE OF EVENT (con't)

A second contributing cause was the amount of analyses that were carried over from the day shift. The amount was atypical, and presented an abnormal work load for the afternoon CT.

D. SAFETY ANALYSIS OF EVENT

The purpose of the surveillance is to verify adequate shutdown margin is maintained during the process of increasing temperature of the RCS. During the course of the event, average RCS temperature ranged from 489 to 501 degrees Fahrenheit. Using the criteria:

1. Zion Unit 1 Cycle 12 curve for Required Shutdown Margin.
2. Curve for 1% Shutdown margin for temperature less than 500 degrees Fahrenheit at beginning of life.
3. 3880 effective full power hours of burnup.

The required shutdown margin was approximately 1070 ppm boron. The RCS boron concentration measured before and after this event was approximately 1260 ppm. Therefore the shutdown margin was adequate during this event, and the safety significance was minimal.

E. CORRECTIVE ACTIONS

The immediate corrective action was that a Unit 1 pressurizer sample was obtained and analyzed for boron.

Training for Chemistry Technicians on chemistry related Technical Specifications will be conducted during the 1991 Continuing Training session.

This event will be discussed with all Chemistry personnel in a Chemistry Department meeting.

The Chemistry Department turnover process is being reviewed, and improvements will be made. The turnover requirements will be established, and will be conducted in a more formal manner.

The conditional surveillance program is undergoing a thorough review. All facets of the process from the flow of paperwork to communications between departments is being examined to determine what improvements are necessary to eliminate the problems experienced in this area. These commitments will be tracked by NTS #295-180-90-15401 (series).

F. PREVIOUS EVENTS

Although no identical previous events could be found, missed samples for inoperable equipment in general are an identified problem. The station is taking action to resolve this problem.

G. COMPONENT FAILURE DATA

None.