

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Zion Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 2 9 5 1 OF 0 2										PAGE (3) 1 OF 0 2																													
TITLE (4) Missed Quadrant Power Tilt Ratio (QPTR) Surveillance																																																	
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 9			1 3			8 5			8 5			0 3			3			0 0			1 0			1 1			8 5													0 5 0 0 0 0									
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OPERATING MODE (9) 1						THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																																											
POWER LEVEL (10) 0 9 9						20.402(b)						20.405(c)						50.73(a)(2)(iv)						73.71(b)																									
						20.405(a)(1)(i)						50.38(a)(1)						50.73(a)(2)(v)						73.71(c)																									
						20.405(a)(1)(ii)						50.38(a)(2)						50.73(a)(2)(vi)						OTHER (Specify in Abstract below and in Text, NRC Form 386A)																									
						20.405(a)(1)(iii)						50.73(a)(2)(i)						50.73(a)(2)(viii)(A)																															
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20.405(a)(1)(v)						50.73(a)(2)(iii)						50.73(a)(2)(ix)																																					
LICENSEE CONTACT FOR THIS LER (12)																																																	
NAME Adam Bless										TELEPHONE NUMBER 3 1 2 7 4 6 - 2 0 8 4																																							
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																															
D								N																																									
SUPPLEMENTAL REPORT EXPECTED (14)																																																	
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO										EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR																							
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																																																	
<p>On September 13, 1985, with Unit 1 at full power, one detector current comparator channel on the Nuclear Instrumentation System (NIS) was placed in defeat. This has the effect that an abnormal Quadrant Power Tilt Ratio (QPTR) on the defeated channel would not be automatically detected and alarmed. Technical Specifications require the operator to perform manual QPTR calculations four times per shift if a QPTR alarm is inoperable. This surveillance was not performed as required.</p> <p>The channel had been placed in defeat as part of an approved Instrument Maintenance procedure, which requires that the channel be returned to normal on completion. That procedure has been revised to require double verification that all channels are in normal when the procedure is completed.</p> <p>The operator was cognizant of the status of the system, but was not aware of the Tech Spec requirement. Shift meetings, involving all Unit Operators and Licensed Shift Supervisors, will be held. This LER and the QPTR Tech Spec requirement will be discussed at these meetings.</p> <p>The normal shiftly QPTR calculation was performed for that shift and indicated no abnormal trends in core.</p>																																																	

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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 8 5 -	0	3	3	-	0	0
						0	2 OF 0 2

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

On September 13, 1985 on day shift, Unit 1 was at full power. Instrument Control System Technicians (CST's) had been working on the power range nuclear instrumentation system (NIS), which feeds the reactor protection system and is used by the unit operator to indicate delta flux and quadrant power tilt ratio (QPTR).

While troubleshooting, the CST placed the detector current comparator for channel N-43 lower in defeat, in accordance with an approved Instrument Maintenance procedure. This has the effect that Quadrant Power Tilt Ratios for the lower half of core are automatically calculated based on three instead of the usual four lower channels, and that an abnormal QPTR would not be automatically detected for the defeated channel. Zion technical specification 4.2.2.B requires that manual QPTR's be calculated by the operator four times a shift if one or more quadrant power tilt alarms are inoperable.

The CST completed his procedure on day shift. This procedure requires placing all defeated channels back in normal. All steps in the procedure were signed off properly. However, when the evening shift Unit operator began work, he found the detector current channel comparator for one channel in defeat. It remained this way through the evening shift. The channel defeat is indicated by a status light on the NIS panel. No work was performed on the system during this shift, except for an inspection by the Tech Staff system engineer. The system engineer did discuss the status of the system with the operator near the beginning of the shift.

On September 14 at 0300 hrs, shift personnel discovered that manual QPTR calculations had not been performed four times during the evening shift as required by Tech Specs. On discovering the discrepancy, the shift had CST's install new calibration currents on the NIS, and returned the defeated channel to normal, eliminating any further special surveillance requirements.

The manual QPTR calculation is normally performed once per shift. The QPTR for this particular shift indicated no abnormal trends in the core. The defeated channel feeds a QPTR deviation alarm function only, so that no reactor protection functions were affected.

Since the completed Instrument Maintenance procedure calls for all channels to be placed in normal, it is not known when this channel was placed in defeat. However, the most likely possibility is that the switch was inadvertently left in defeat by the CST during performance of his procedure. The Instrument procedure has recently been revised, with the new revision requiring double verification that channel defeat switches are placed back in normal. Discussions with the evening shift operator revealed that he was aware of the status of the NIS system, but was not aware of the Tech Spec requirement. This LER and the Tech Spec requirement for QPTR's will be discussed at shift meetings. The discussions will continue long enough to ensure that every Unit Operator and Licensed Shift Supervisor takes part in these discussions. In addition, plant Abnormal Operating Procedure AOP-7 ("Nuclear Instrumentation System Malfunction") will be amended to clarify the surveillance requirement and its applicability. No further action is necessary.

October 11, 1985

To: G. J. Pliml

Subject: On-Site Review of Licensee Event Report No. 85-033-00,  
Docket No. 50-295 (Unit 1)

We have reviewed the attached Licensee Event Report on missed QPTR surveillance and recommend its submittal to the NRC. The open items are being tracked by commitment #295-200-85-180.

Prepared by: Adam Bless  
Adam Bless

Station Review:

Disciplines Required: A,B,C,E

Robert M. Casarano  
Tech Staff Supv.  
A,B,G

Sam R. Smith ABCG  
Operating Engineer

W. R. Kusch ABCE  
Asst. Superintendent

I concur and approve: T. A. Rieck  
T. A. Rieck  
Superintendent, Services  
Zion Station

TAR/dn

Attachment

cc: Operating Department  
C. Schultz (2 copies)  
W. Lowe  
W. Stone  
P. LeBlond  
J. Johnson W  
INPO Record Center  
Master File

D. Galle	D. Scott
F. Palmer	R. Querio
F. Lentine	J. Gudac
W. Shewski	W. Koester
M. Carnahan	G. Diederich



**Commonwealth Edison**

Zion Generating Station  
101 Shiloh Blvd.  
Zion, Illinois 60099  
Telephone 312/746-2084

October 11, 1985

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

References: 10CFR50

Dear Sir:

The enclosed Licensee Event Report 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 there has been an operation or condition prohibited by the plant's Technical Specifications.

This report is number 85-033-00, Docket No.50-295/DPR-39.

Very truly yours,

G. J. Pliml  
Station Manager  
Zion Generating Station

GJP/rm

Enclosure: Licensee Event Report No. 85-033-00

Attachment

cc: J. G. Keppler, NRC Region III Administrator  
M. Holzmer, NRC Resident Inspector  
INPO Record Center  
CECo Distribution List

IE77  
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