



**Commonwealth Edison**

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

November 3, 1989

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

Dear Sir:

The enclosed Licensee Event Report number 89-017-00, 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)(iv), which requires a 30 day written report when any condition or event occurs that results in manual or automatic actuation of any Engineered Safety Feature.

Very truly yours,

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

TPJ/rmd

Enclosure: Licensee Event Report

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

8911080058 891103  
PDR ADOCK 05000295  
S PDC

0857D

IE22  
11

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Zion Unit 1 Docket Number (2) 0 15 10 10 10 12 19 15 Page (3) 1 of 0 3  
 Title (4) Closure of Containment Isolation Valve 1FCV-PR24A Due to Unknown Cause

Event Date (5) 10 04 89 LER Number (6) 0117 Report Date (7) 11 03 89 Other Facilities Involved (8)  
 Month Day Year Year Sequential Number Revision Number Facility Names Docket Number(s)

OPERATING MODE (9) 6 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR  
 (Check one or more of the following) (11)  
 POWER LEVEL (10) 0 0 0  
 20.402(b)  20.405(c)  50.73(a)(2)(iv)  73.71(b)  
 20.405(a)(1)(i)  50.36(c)(1)  50.73(a)(2)(v)  73.71(c)  
 20.405(a)(1)(ii)  50.36(c)(2)  50.73(a)(2)(vii)  Other (Specify  
 20.405(a)(1)(iii)  50.73(a)(2)(i)  50.73(a)(2)(viii)(A) in Abstract  
 20.405(a)(1)(iv)  50.73(a)(2)(ii)  50.73(a)(2)(viii)(B) below and in  
 20.405(a)(1)(v)  50.73(a)(2)(iii)  50.73(a)(2)(x) Text

LICENSEE CONTACT FOR THIS LER (12)  
 Name Paul Geddes, LER Coordinator ext. 201 TELEPHONE NUMBER 3 1 2 7 4 6 - 2 10 8 4  
 AREA CODE

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
X	I L	I S V	M 1 2 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)  
 Yes (If yes, complete EXPECTED SUBMISSION DATE)  NO   
 Expected Submission Date (15)

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

Unit 1 was defueled. Safeguards was deenergized. At approximately 1330 on 10/4/89, numerous alarms associated with Steam Generator (S/G) level and flow indication were received. Simultaneously, the Unit 1 process computer went down, and at approximately the same time the following instruments were observed as being 'failed on-scale' (failed on-scale means they should have indicated zero, but were instead reading an intermediate position): 1LI-537, 1LI-529, 1LI-549, 1LI-519, 1LI-502B, 1LI-548, 1FI-540, 1FI-520. About three minutes later, it was noted that 1FCV-PR24A had closed. 1FCV-PR24A is one of two series Containment Isolation valves that are also suction valves for the Containment System Particulate Iodine Noble Gas (SPING) monitor. The SPING closes the Containment Purge Isolation Valves upon detecting a high radiation condition.

No specific cause for the closure of 1FCV-PR24A could be found. The safety significance is minimal because the Unit was defueled, and Containment purge was not in progress.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				Page (3)	
		Year	Sequential Number	Revision Number			
Zion Unit 1	0 1 5   0   0   0   2   9   5	8   9	-   0   1   7	-   0   0	0   2	OF 10   13	

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

A. CONDITION PRIOR TO EVENT

MODE 6 - Refueling RX Power 0 RCS [AB] Temperature/ Pressure - °F/ - psig

B. DESCRIPTION OF EVENT

Unit 1 was defueled. Safeguards was deenergized. Instrument buses 111, 112, 113 and 114 were being powered directly from the respective AC power sources (dirty power), because all four instrument inverters were out of service for maintenance. This is significant because it means that all four instrument buses are powered from the same AC source (offsite power), and a voltage fluctuation on one bus would also appear on the other three simultaneously. At approximately 1330 on 10/4/89, numerous alarms associated with Steam Generator (S/G) level and flow indication were received. Simultaneously, the Unit 1 process computer went down, and at approximately the same time the following instruments were observed as being 'failed on-scale' (failed on-scale means they should have indicated zero, but were instead reading an intermediate position): 1LI-537, 1LI-529, 1LI-549, 1LI-519, 1LI-502B, 1LI-548, 1FI-540, 1FI-520. About three minutes later, it was noted that 1FCV-PR24A had closed. 1FCV-PR24A is powered from Instrument Bus 111. This valve is one of two series Containment Isolation valves which are suction valves for the Containment SPING monitor. This monitor is used to close the Containment Purge Isolation Valves when a high radiation condition is detected in Containment. 1FCV-PR24A receives a Phase A isolation signal when a Safety Injection is initiated. Although Safeguards was deenergized, this only affects a portion of Safeguards, and the circuitry causing Phase A isolation remains energized. Work Request #Z-86213 was written to investigate.

C. APPARENT CAUSE OF EVENT

The cause of the closure of 1FCV-PR24A is unknown. No work was being performed in the Phase A circuitry associated with 1FCV-PR24A. It is speculated that a momentary voltage fluctuation caused the observed events related to instrumentation and 1FCV-PR24A. The cause of the loss of the Unit 1 process computer was a worker inadvertently tripping off a breaker at the Computer Room ESS Distribution Panel. While removing the panel cover, a stripped screw gave way, allowing the panel cover to rotate, which tripped off the supply breaker for the Unit 1 process computer.

D. SAFETY ANALYSIS OF EVENT

The Unit was defueled, and Containment purge was not in progress. These two conditions precluded the possibility of a radioactive release from Containment that would threaten the health and safety of the public. Additionally, the closure of 1FCV-PR24A was momentary.

From an ESF actuation standpoint, there is no concern as the valve stroked to the accident position.

The mechanical effects of closing the suction valve of the SPING during operation were considered. Due to the low flow of the system (0.2 CFM), and the momentary nature of the closure, these effects were evaluated as negligible.

Due to the above considerations, the safety significance of this event is minimal.



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E. CORRECTIVE ACTIONS

1FCV-PR24A was opened, then manually cycled to verify open/closed capability. The S/G level and flow alarms were in only momentarily, then cleared. All indications returned to normal. Since no specific cause could be found, no further action is anticipated. It should be noted that Work Request #Z86213, written to investigate the event, stated that the cause of the event was the dead bus transfer of all instrument buses back to their respective inverters. Further investigation revealed that this was not the cause - the bus transfer occurred at 2100 on 10/4/89, not at 1330.

F. PREVIOUS EVENTS

None

G. COMPONENT FAILURE DATA

None