

LICENSEE EVENT REPORT (LER)														
Facility Name (1) Zion, Unit 2										Docket Number (2) 0 5 0 0 0 3 0 4			Page (3) 1 of 0 3	
Title (4) Inadvertent Trip of Unit 2 Purge														
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 8	8 5	8 5	0 2 7	0 0	1 2	1 8	8 5			0 5 0 0 0			
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)		X		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 below			
			20.405(a)(1)(iv)		50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)		and in Text)			
			20.405(a)(1)(v)		50.73(a)(2)(iii)				50.73(a)(2)(x)					
LICENSEE CONTACT FOR THIS LER (12)														
Name Christopher Kuechle Extension 563 Health Physicist										TELEPHONE NUMBER AREA CODE 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	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS				
D	I	K	M	O	N	E	O	7	O	N				
SUPPLEMENTAL REPORT EXPECTED (14)														
Yes (If yes, complete EXPECTED SUBMISSION DATE)										X NO		Expected Submission Date (15)		
ABSTRACT (Limit to 1400 spaces, i.e, approximately fifteen single-space typewritten lines) (16)														

At 0820 on 11/18/85, during a continuous purge of U-2 while refueling was in progress, a high alarm from the particulate channel of the U-2 containment air monitor 2RIA-PR40 resulted in the closure of the purge isolation valves, a conservative action by an engineered safety feature. There were no safety implications. Concurrent with this event was a "spike" seen on the U-2 containment purge exhaust stack air particulate monitor 2RT-PR09C.

The cause of the event was procedure deficiency. The particulate channel of 2RIA-PR40 had been out of service (in the "Maintenance" mode) due to intermittent spiking caused by a defective AC receptacle. Following the change out of the particulate filter (as part of a routine out of service surveillance), a Radiation/Chemistry technician incorrectly restored the channel to it's "Normal" mode, which enabled the associated control function. Two minutes later, a spike occurred in excess of the alarm setpoint, and ESF actuation occurred.

The spike on 2RT-PR09C was determined to be the result of electronic interference. Repair of the channel (2RIA-PR40) is in progress to eliminate the spiking problem. In addition, a "special instructions" portion to the procedure and surveillance form will be added to give written specific guidance to technicians under conditions similar to those above.

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TEXT												

At 0820 on 11/18/85, during a continuous purge of Unit 2 containment (Release No. 85-807) while core refueling activities were in progress, a high alarm was received from the particulate channel (Channel 1) of the Unit 2 containment air radiation monitor (2RIA-PR40). This resulted in closure of the Containment Purge isolation valves (2ADV-RV0001, 2, 3 and 4), a conservative action by an engine red safety feature. Also noted during this evolution was a "spike" on the Unit 2 containment purge exhaust stack air particulate radiation monitor (2RT-PR09C). Routine analyses of particulate filters (used in portable air sampling equipment located throughout the containment building) obtained prior to and following the event showed containment air activity to be well within all release limits. There were no safety implications.

At the time of occurrence, the event was brought to the attention of a Health Physicist (HP), in the Control Room on an unrelated matter. He examined the strip chart record for 2RT-PR09C and concluded that the "spike" noted on 2RT-PR09C was not sufficiently high to have resulted in an alarm from this monitor. He was then told by the Shift Control Room Engineer (SCRE) that a Radiation/Chemistry Technician (RCT) had informed him a few minutes earlier that he (the RCT) would soon be changing the particulate filter for 2RIA-PR40 as part of the routine Out of Service Surveillance for Channel 1. The SCRE gave the RCT permission to perform the surveillance, as the monitor is not required to be operable for purges of containment.

The Health Physicist then examined the data record from 2RIA-PR40 and concluded that the high alarm and resultant ESF actuation had been caused by the particulate channel of 2RIA-PR40. Aware that this channel was Out-Of-Service due to intermittent spiking and that it should have been in the "Maintenance" mode (which disables any alarm functions), he informed the SCRE that the high alarm had been caused by 2RIA-PR40.

The HP then sought out the RCT to determine why the particulate channel had been restored to its "Normal" mode (which is performed locally at the monitor through the use of a toggle switch) two minutes prior to the ESF actuation. The RCT showed him the Out of Service Surveillance form (Radiation Procedure 1350-8, "Out of Service Surveillance for Radiation Monitors"), which did not address the mode in which the channel was to remain. The HP then wrote "Leave Ch. 1 in Maintenance" on the form to prevent a recurrence of this event.

The HP later consulted with a second HP, who had initially identified the spiking problem with Channel 1 and had taken the channel Out of Service pending repairs. He was told that the requirement to leave the channel in the "Maintenance" mode had been recorded in the Rad Chem Foreman's Log two days earlier, but that the information had apparently not been entered on the Out of Service Surveillance form, nor had it been passed along verbally to the RCT.

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TEXT												

The intermittent "spiking" noted from the 2RIA-PR40, Channel 1 has been the subject of a previous LER (Ref. 50-304/85-021). This problem was diminished, but not eliminated completely following the replacement of the AC receptacle noted in that LER. In addition, a relatively low setpoint for this channel (2000 cpm, approximately three times the ambient background) is used during Unit outages to give plant personnel more rapid notification of changes in radiological conditions. The normal setpoint for this channel is 9.99E+5 cpm. The spike which initiated this event was recorded as 2.64E+3 cpm.

Subsequent review of the strip chart record to determine the cause of the "spiking" seen on 2RT-PR09C showed that this occurred several times during the course of the day. This behavior began around 0745. Spikes to approximately 2000 - 5000 cpm were noted at intervals ranging from 20 - 45 minutes. The spikes themselves lasted two to five minutes. Spiking ceased approximately 1130, then began again at 1315, only to end at 1415. A similar pattern was seen between 1600 and 0100 that evening, with a break between 1700 and 2000. Due to this pattern, the spiking was believed to result from radiofrequency interference from welding activities taking place in the room which houses the unit's volume control tank, which is located adjacent to the room in which the 2RT-PR09C detector is located.

The cause of this incident is attributed to procedure deficiency. A "special instructions" portion to the procedure and surveillance form will be added to give specific written guidance to technicians under conditions similar to those above. In addition, repair of the channel (2RIA-PR40) is in progress to eliminate the spiking problem. Completion of these two items is being tracked by station commitments #304-200-85-116-01 and 304-200-85-116-02.

No further action is required.



Commonwealth Edison

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

December 18, 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)(iv) which requires a 30 day written report when an event or condition results in manual or automatic actuation of Engineered Safety Features (ESF).

This report is number 85-027-00, Docket number 50-304/DPR-48.

Very truly yours,

for G. J. Pliml
Station Manager
Zion Generating Station

GJP/dn

Enclosure: Licensee Event Report No. 85-027-00

Attachment

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

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