



Commonwealth Edison

Zion Generating Station
101 Shiloh Blvd.
Zion, Illinois 60099
Telephone 708 / 746-2084

March 31, 1994

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

Dear Sir:

The enclosed Licensee Event Report number 94-001-00, Docket No. 50-304/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 event or condition occurs that resulted in a manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

Very truly yours,

E. A. Broccolo
Station Manager
Zion Generating Station

EAB/neb

Enclosure: Licensee Event Report

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

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PDR ADOCK 05000304
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LICENSEE EVENT REPORT (LER)

Form Rev 3.0

Facility Name (1) Zion Unit 2	Docket Number (2) 0 5 0 0 0 3 0 4	Page (3) 1 of 0 3
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Title (4)
Actuation of Unit 2 Station Blackout Loads During Restoration of Buses 147/247 to Offsite Power.

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 3	0 2	9 4	9 4	--- 0 0 1	--- 0 0	0 3	3 1	9 4	Zion Unit 1	0 5 0 0 0 2 9 5	

OPERATING MODE (9) 5

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

20.402(b)	20.405(c)	<input checked="" type="checkbox"/> 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	TELEPHONE NUMBER
Jeff Bergmann, Site Support Engineering ext. 3863	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
0				N					

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On 03/02/94, Technical Staff Special Procedure (TSSP) 44-93, was being performed on the 0 Emergency Diesel Generator (EDG) [EK] following a modification that had been installed on the 0 EDG to allow it to supply power to Essential Service (ESS) Buses 147 and 247 (Attachment 1). The purpose of this testing was to verify that 0 EDG could maintain its frequency and voltage requirements while supplying power for the Station Blackout loads for both ESS buses 147 and 247.

During the performance of TSSP 44-93, both of the 0 EDG output breakers tripped open during reverse power. Due to the installation of a Jumper for the test, the Unit 2 blackout loads automatically sequenced onto 0 EDG.

The cause of this event was a procedural deficiency. TSSP 44-93 did not take into consideration that the control room megawatt indication for the 0 EDG was not accurate enough for the evolution that was required.

This event had minimal safety significance. Corrective actions include determining that TSSP 44-93 will not be performed again, and reviewing other procedures to ensure this condition could not recur.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)							
		Year	///	Sequential	///	Revision									
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Zion Unit 2	0 5 0 0 0 3 0 4	9	4	-	0	0	1	-	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 5 - Cold Shutdown RX Power 0% RCS [AB] Temperature/ Pressure 180 F/100 psig

B. DESCRIPTION OF EVENT

On 03/02/94, Technical Staff Special Procedure (TSSP) 44-93, was being performed on the 0 Emergency Diesel Generator (EDG) [EK] following a modification that had been installed on the 0 EDG to allow it to supply power to Essential Service (ESS) Buses 147 and 247 (Attachment 1). The purpose of this testing was to verify that 0 EDG could maintain its frequency and voltage requirements while supplying power for the Station Blackout loads for both ESS buses 147 and 247. The Station Blackout loads for ESS bus 147 are the 1A Service Water (SW) [BI] pump, the 0E Component Cooling Water (CC) [CC] pump, and the 1C Reactor Containment Fan Cooler (RCFC) [BK]. The Station Blackout loads for ESS bus 247 are the 2A SW pump and the 2C RCFC.

During the performance of TSSP 44-93, the Station Blackout loads for ESS buses 147 and 247 were successfully sequenced onto 0 EDG. System Operating Instruction (SOI) 63-E, "Transferring 4KV ESS Buses from EDG to Normal Feed", was being used to parallel the buses to off-site power and unload them from 0 EDG sequentially. ESS bus 147 was successfully paralleled with off-site power, but when 0 EDG was unloaded below 200 KW, both of the 0 EDG output breakers tripped open due to reverse power.

Since 0 EDG was already at speed and frequency, the 0 EDG output breaker for Unit 2 automatically reclosed in response to the undervoltage signal that was generated and the Unit 2 Blackout loads automatically sequenced onto 0 EDG. The Unit 2 Nuclear Station Operator secured the loads, and ESS bus 247 was paralleled to off-site power. The 0 EDG was shutdown and TSSP 44-93 was exited. NRC notification was made per 10CFR 50.72.b.2.11.

C. APPARENT CAUSE OF EVENT

The cause of this event was a procedural deficiency. TSSP 44-93 did not take into consideration that the control room megawatt (MW) indication for the 0 EDG was not accurate enough for the evolution that was required. The operator did not have a lot of experience using the governor control switch at low MW values. The procedure also should have considered that there was only one reverse power relay for both of these breakers. If a legitimate reverse power condition existed for either of the breakers, it would actuate the reverse power relay and cause the other unit's EDG output breaker to trip open. Prior to this modification, the breaker circuitry only allowed closure of one EDG output breaker at a time.

A contributing cause for the ESF actuation was the jumper installed in the undervoltage circuitry for the purpose of testing the modification. With a normal plant configuration the loss of voltage to bus 247 would not have caused the automatic sequencing of the Unit 2 blackout loads.

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D. SAFETY ANALYSIS OF EVENT

There were no safety concerns associated with this event. Bus 247 experienced an undervoltage, however, the voltage was restored to the bus by the 0 EDG. The bus was then transferred to offsite power and the EDG secured. The blackout loads that sequenced were secured shortly thereafter.

E. CORRECTIVE ACTIONS

The loads on bus 247 were secured and bus 247 was transferred back to offsite power.

- 1) The immediate corrective action was to secure the loads on ESS Bus 247 and transfer the bus back to offsite power.
- 2) TSSP 44-93 was only performed for the acceptance of this modification. It will not be performed again.
- 3) Other station procedures were reviewed to determine if this condition could be repeated. Emergency Operating Procedures (EOP), ECA 0.0, "Loss of all AC Power", ECA 0.1, "Loss of all AC Power Recovery without SI Required", ESP 6.1 "Energize 4KV ESF Buses from Normal Off-Site Power", and ESP 6.2, "Energize 4KVESF Buses from Reserve Feed" were reviewed to ensure that this situation could not recur. No Technical Staff Surveillance or Technical Staff Special Procedures that could recreate this situation were identified.

F. PREVIOUS EVENTS

Review of the previous history has found no previous events of this nature.

G. COMPONENT FAILURE DATA

None

ATTACHMENT 1

