

Omaha Public Power District  
444 South 16th Street Mall  
Omaha, Nebraska 68102-2247  
402/636-2000

July 3, 1990  
LIC-90-0480

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Reference: (1) Docket No. 50-285  
(2) Licensee Event Report 90-10, April 26, 1990 (LIC-90-0304)

Gentlemen:

Subject: Licensee Event Report 90-10, Revision 1 for the Fort Calhoun  
Station

Please find attached Licensee Event Report 90-10, Revision 1 dated July 3, 1990. An inapplicable procedure number was inadvertently included in the corrective actions of the original version of this report. This revision provides corrected and updated information identified by a vertical bar in the margin. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(iv).

If you should have any questions, please contact me.

Sincerely,

*W. G. Gates*

W. G. Gates  
Division Manager  
Nuclear Operations

WGG/tcm

Attachment

c: R. D. Martin, NRC Regional Administrator  
A. Bournia, NRC Project Manager  
P. H. Harrell, NRC Senior Resident Inspector  
INPO Records Center  
American Nuclear Insurers

*1622*  
*TEH*  
*11*

## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  
Fort Calhoun Station Unit No. 1

DOCKET NUMBER (2)  
0 5 0 0 0 2 8 5

PAGE (3)  
1 OF 0 3

TITLE (4)  
Unplanned Attempted Start of Emergency Diesel Generator

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	2	7	9	0	9	0	0	0	1	0	7
0	3	2	7	9	0	9	0	0	0	1	0	7

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

OPERATING MODE (9)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
5			X	
POWER LEVEL (10)	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 1 0 0	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	
	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Doug S. Molzer, Shift Technical Advisor	4 0 2 5 3 3 - 6 8 9 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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/>	<input checked="" type="checkbox"/>				

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

On March 27, 1990, at 1428, an unplanned attempted start of Emergency Diesel Generator D-1 occurred while the plant was in refueling shutdown. Operations personnel were performing an electrical checklist as part of post-maintenance testing prior to returning the diesel generator to service. The diesel attempted to start when the mode selector switch was taken to "Emergency Standby", per the procedure, and the start circuitry sensed a low voltage on a associated non-vital bus. The non-vital bus had been tagged out and de-energized for scheduled maintenance. The diesel failed to start due to low air pressure in the diesel air start system, which had not yet been completely pressurized.

An unplanned start of an emergency diesel generator is considered an actuation of a Emergency Safeguards Feature. The unsuccessful start in this event was considered to meet the reportability criteria. A four-hour notification to the NRC was made at 1632, in accordance with 10 CFR 50.72(b)(2)(ii).

Corrective actions included changes to the operating instructions to provide additional guidance prior to realigning the diesel for normal operation or testing. The revision included a list of the auto-start signals that will initiate a diesel start. As an interim measure, appropriate caution tags were placed on the mode selector switches.



LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Fort Calhoun Station Unit No. 1

0 5 0 0 0 2 8 5

YEAR

SEQUENTIAL NUMBER

REVISION NUMBER

9 0

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0 2 OF 0 3

TEXT (If more space is required, use additional NRC Form 308A's) (17)

On March 27, 1990, Fort Calhoun Station Unit No. 1 was in a refueling outage (Mode 5). The 4160V Bus 1A1 was de-energized and tagged out for scheduled maintenance. Emergency Diesel Generator D-1 had also been out of service for maintenance. The maintenance on D-1 had been completed and work was in progress to return the system to service. Surveillance test MM-ST-DG-0001 was the procedure controlling the inspection and testing of D-1. The test required that D-1 be started following inspection. In preparation for starting the diesel, operations personnel were performing procedure OI-DG-1, "Normal Operation Diesel Generator No. 1". Operations personnel started the compressors for the diesel starting air system as required by OI-DG-1. The procedure also required that checklists DG-1-CL-A through E be completed. In checklist DG-1-CL-E, "Normal Operation Electrical Checklist No. 1 Diesel Generator" an operator is required to place the 43-1/D1 Diesel Mode Selector Switch in the "Emergency Standby" position.

At 1428, Diesel Generator D-1 attempted to auto-start when a control room operator turned the diesel mode selector switch to the "Emergency Standby" position from the "Off Auto" position. The diesel failed to start because of low air pressure in the diesel air start system. The compressors for the starting air system did not have sufficient time to build up system pressure due to being placed in service only a short time earlier. The control room operator performing the switch lineup realized that the diesel was attempting to start and repositioned the diesel mode selector switch back to "Off Auto", reset the diesel auto start lockout relays and depressed the diesel stop pushbuttons.

Investigation following the incident revealed that when the 43-1/D1 Diesel Mode Selector Switch was placed in the "Emergency Standby" position, the diesel generator idle start circuitry sensed a low voltage on the associated non-vital 4160V bus 1A1. As designed, the undervoltage condition on bus 1A1 tripped the diesel auto start lockout relays (86A/D1 and 86B/D1) and initiated an idle start of the diesel, when the mode selector switch was placed in the "Emergency Standby" position.

Immediately following the incident the Shift Supervisor placed a caution tag on the mode selector switch with instruction that the switch remain in the "Off Auto" position. This was to ensure that another operating crew did not reposition the switch while the diesel auto-start signal was present.

An unplanned start of an emergency diesel generator is an actuation of a Emergency Safeguards Feature. A conservative interpretation was made that this event met the reportability criteria, even though the diesel was out of service and not required to be operable. It did not actually start, and would not have performed its safety function. The NRC Resident Inspector was notified and a four-hour notification to the NRC was made at 1632, in accordance with 10 CFR 50.72(b)(2)(ii). This LER is submitted pursuant to 10 CFR 50.73(a)(2)(iv).

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Fort Calhoun Station Unit No. 1	DOCKET NUMBER (2)  0500028590	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The safety significance associated with this event was minimal. At the time of the event the plant was in refueling shutdown (Mode 5) and all fuel had been removed from the reactor. In this mode and plant condition the diesel generators are not required to be operable to be in compliance with Technical Specifications. At the time of the event, plant loads were supplied from 161KV off-site power, and 345KV off-site power was available as a backup power supply if needed. Diesel generator D-2 was operable and available for use. Based on the condition and operating mode of the plant during this event, it can be concluded that nuclear safety was not adversely affected.

The primary cause of this event was insufficient guidance in OI-DG-1. The procedure failed to provide instructions for the operator to ensure that no auto-start signals were present prior to performing realignment for normal operation or testing. The procedure also failed to caution the operator that starting air pressure must be adequate before placing the mode switch in "Auto". The same deficiencies existed in the corresponding procedure (OI-DG-2) for Diesel Generator D-2. A contributing cause was the failure of operations personnel to recognize existing plant conditions and their effect on the diesel auto-start circuitry.

The following corrective actions are associated with this event:

- (1) Operating Instructions OI-DG-1 and OI-DG-2 have been revised to include a precaution statement for the operator to ensure a diesel auto-start signal is not present before realigning the diesel for normal operation or testing. The revision includes a list of the auto-start signals that will initiate a diesel start. A precaution has been added to ensure the operator verifies that starting air pressure is adequate prior to placing the mode selector switch in "Emergency Standby".
- (2) Surveillance Test MM-ST-DG-0001 has been revised to include a step to ensure that applicable sections of OI-DG-1 and OI-DG-2 are performed prior to starting the affected diesels.
- (3) As an interim measure, caution tags were put on the mode selector switches as reminders to verify conditions which initiate an auto-start of the emergency diesel generators did not exist prior to moving the switches from "Off-Auto" position. These caution tags have been cleared.

This is the fourth LER associated with an inadvertent start of a Emergency Diesel Generator at Fort Calhoun Station. The others are reported in LER's 88-07, 88-14, and 88-24.