

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) CRYSTAL RIVER UNIT 3										DOCKET NUMBER (2) 0 5 0 0 0 3 0 2					PAGE (3) 1 OF 0 13				
TITLE (4) UNPLANNED AUTOMATIC ACTUATION OF AN 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 N/A				DOCKET NUMBER(S) 0 5 0 0 0						
0	6	1	5	8	5	8	5	0	0	6	0	0	7	1	5	8	5	N/A	0 5 0 0 0
OPERATING MODE (9) 6		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more of the following) (11)																	
POWER LEVEL (10) 0 0 0		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)					
		20.406(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)					
		20.406(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)					
		20.406(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(A)									
		20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)									
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)									
LICENSEE CONTACT FOR THIS LER (12)																			
NAME W. K. Bandhauer, Nuclear Safety Supervisor										TELEPHONE NUMBER AREA CODE 9 0 4 7 9 5 - 6 4 8 6									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																			
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS									
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR					
YES (If yes, complete EXPECTED SUBMISSION DATE): <input checked="" type="checkbox"/> NO																			

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

On June 15, 1985, while in a refueling outage, Crystal River Unit 3 experienced an automatic actuation of the "A" Engineered Safeguards (ES) 4160 VAC Bus Undervoltage Protective Relaying. The actuation was caused by blown fuses in the circuits for two of the three phases of bus undervoltage sensing. An actual undervoltage condition did not exist on the "A" ES 4160 VAC Bus. Upon actuation, the undervoltage relaying caused all "A" ES 4160 VAC Bus feeder breakers to open, the "A" Emergency Diesel Generator (EGDG-1A) to start and the diesel generator output breaker to close. The blown fuses were replaced, the normal feeder was closed, and EGDG-1A was shutdown. The event had no significant impact on plant operations.

The blown fuses resulted from shorting the bus undervoltage sensing phases together while preparing the conductors for termination as part of the modification in progress. The conductors should not have been energized at the time of preparation for termination; however, due to premature closing of terminal block sliding links in a relay rack, the conductors were energized. The sliding links were closed prematurely due to a misunderstanding of the process for turning over plant systems following a modification. The misunderstanding has been corrected and post-modification turnover procedures re-emphasized.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) CRYSTAL RIVER UNIT 3	DOCKET NUMBER (2) 0 5 0 0 0 3 0 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	— 0 0 6	— 0 0	0 2	OF	0 3

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

EVENT DESCRIPTION

On June 15, 1985, Crystal River Unit 3 was in a refueling outage with the reactor completely defueled. The "B" Engineered Safeguards (ES) 4160 VAC Bus (EB) was de-energized and the "B" Emergency Diesel Generator (EGDG-1B) (EK,DG) was tagged out for maintenance activities. The "B" ES 480 VAC Bus (ED) was fed from the "A" ES 480 VAC Bus (ED) via the crosstie breakers.

At 1020, the "A" ES 4160 VAC Bus (EB) feeder breakers opened, EGDG-1A started automatically, and the EGDG-1A output breaker shut to restore power to the "A" ES 4160 VAC Bus. All electrical loads supplied by the "A" ES 4160 VAC Bus, the "A" ES 480 VAC Bus, and the "B" ES 480 VAC Bus were de-energized during this transfer and were automatically started as needed. There was no significant impact on plant operations.

The automatic start and loading of the diesel generator resulted from the actuation of the "A" ES 4160 VAC Bus Undervoltage Protective Relaying scheme. This actuation was caused by blown fuses in the circuits for the "A" and "B" phases of that scheme. The fuses blew when the two conductors were shorted together by a contractor supplied electrician preparing the conductors for termination as part of a modification in progress. This preparation included cutting the cable to the proper length, and when this was performed the cutting device caused the phases to short together. The conductors should not have been energized at that time.

The improper energization of the two conductors resulted from premature closing of terminal block sliding links in a relay rack. The terminal block sliding links were closed between May 21 and June 15, 1985. The individual or section responsible for shutting these sliding links could not be identified.

If post-modification turnover procedures had been properly followed, neither Construction, Construction Verification, nor Functional Testing should have caused the affected sliding links to be shut during the time frame in which they were apparently shut. Although no individual or group acknowledges responsibility for this event, the cause is apparently due to a failure to follow post-modification turnover procedures.

When the affected sliding links were determined to be shut prematurely, they were immediately reopened and the fuses replaced on the "A" and "B" phases of the "A" ES 4160 VAC Bus undervoltage protective relaying scheme. The normal feeder breaker to that bus was then closed and EGDG-1A was shutdown.

SAFETY CONSIDERATIONS

After the initial error which caused the two fuses to blow, all safety related equipment performed as designed. The reactor was defueled at the time and the spent fuel pools were adequately cooled throughout the event. Modifications such as the one involved in this event would not be scheduled during power operations; therefore, it is unlikely that a loss of

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

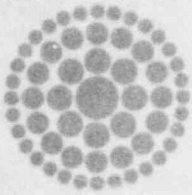
ES buses caused by similar circumstances would occur at power. If this did occur, no unacceptable risks would exist as evidenced by the Crystal River Unit 3 Final Safety Analysis Report, Section 14.1.2.8, Loss of Electrical Power.

CORRECTIVE ACTIONS

As a result of this event, Nuclear Outage and Modifications management issued a letter to responsible supervision reaffirming proper turnover procedures and procedural jurisdiction. This letter summarized the complete turnover process and listed references for each step of the turnover. The re-emphasizing of jurisdiction over systems undergoing modification should eliminate any further uncertainty regarding control of the position of sliding links.

PREVIOUS SIMILAR EVENTS

Spurious Emergency Diesel Generator automatic starts have occurred five times in the past; however, this is the first event in which the EGDG automatic start resulted from failure to follow system turnover procedures.



**Florida
Power**
CORPORATION

July 15, 1985
3F0785-18

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

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Licensee Event Report No. 85-006-00

Dear Sir:

Enclosed is Licensee Event Report (LER) No. 85-006-00 which is submitted in accordance with 10 CFR 50.73.

Should there be any questions, please contact this office.

Sincerely,

G. R. Westafer
Manager, Nuclear Operations
Licensing and Fuel Management

DGG/feb

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator, Region II
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, GA 30323

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