

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9	PAGE (3) 1 OF 0 4
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TITLE (4)  
Loss of Power to 480 Volt Unit Substations

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 9	1	0 8	4	8 4	0 2	0 0	1 0	1 2	8 4	0 5 0 0 0

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

OPERATING MODE (9) N	20.402(b)	20.408(e)	<input checked="" type="checkbox"/>	90.73(a)(2)(iv)	73.71(b)
	20.408(a)(1)(i)	90.36(e)(1)	<input type="checkbox"/>	90.73(a)(2)(v)	73.71(e)
	20.408(a)(1)(ii)	90.36(e)(2)	<input checked="" type="checkbox"/>	90.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 388A)
	20.408(a)(1)(iii)	90.73(a)(2)(i)	<input type="checkbox"/>	90.73(a)(2)(vii)(A)	
	20.408(a)(1)(iv)	90.73(a)(2)(ii)	<input type="checkbox"/>	90.73(a)(2)(vii)(B)	
	20.408(a)(1)(v)	90.73(a)(2)(iii)	<input type="checkbox"/>	90.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Arthur C. Dickinson	TELEPHONE NUMBER AREA CODE: 6 0 1 9    9 7 1 1 - 1 4 6 2 1 6
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
B		0 0 5 1 G	0 8 0						

SUPPLEMENTAL REPORT EXPECTED (14)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH: 1 2	DAY: 2 1	YEAR: 8 4
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

While transferring from parallel to single unit substation operation (480 VAC), power was lost to 1A2 and 1B2 buses, resulting in a full scram, reactor primary containment and secondary containment isolation, and loss of both Standby Gas Treatment System trains. The bus tie breaker US2T was closed. When unit substation breaker 1A2M was opened, unit substation breaker 1B2M tripped on short time overcurrent. Breaker 1B2M was reclosed and reloaded and assumed load on both buses. When power was restored, systems were lined up and returned to normal. The Standby Gas Treatment System was without power for approximately 37 seconds.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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			0 2 0	0 0	0 2	OF

TEXT (If more space is required, use additional NRC Form 388A's) (17)

IDENTIFICATION OF OCCURRENCE:

Loss of power to redundant 480 volt unit substations caused inoperability of required safety systems and actuation of engineered safety feature systems. This event is considered to be a reportable occurrence per 10CFR 50.73 (a) (2) (iv) and (a)(2)(vii).

CONDITIONS PRIOR TO OCCURRENCE:

The reactor mode switch was in the SHUTDOWN position. Reactor coolant temperature was less than 212°F. The reactor was vented to Primary Containment. Plant systems were being lined up for a Primary Containment Integrated Leak Rate Test.

DESCRIPTION OF OCCURRENCE:

In preparation for testing of primary unit substation relays, the 480V unit substation 1A2 was being lined up to be powered from the redundant unit substation 1B2 through tie breaker US2T so normal supply breaker 1A2M could be opened. As directed by a plant procedure, which has been used without incident both prior to and subsequent to this event, the tie breaker US2T was closed and the normal supply breaker 1A2M was opened. When breaker 1A2M was opened, breaker 1B2M tripped immediately causing loss of power to both unit substations 1A2 and 1B2. To regain power, tie breaker US2T was opened, supply breaker 1B2M was reset and closed and tie breaker US2T was reclosed. Power was restored to unit substations 1A2 and 1B2 in approximately 37 seconds. The remaining equipment which is supplied by these buses was restored.

The loss of power caused a reactor scram, reactor isolation, primary containment isolation, and secondary containment isolation. While power was lost to unit substation 1A2 and 1B2, AC powered isolation valves and safety systems were inoperable.

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

APPARENT CAUSE:

Breaker 1B2M was removed for maintenance the next day (September 11, 1984). The overcurrent device (G.E. EC-1B) was found to trip at a current which was 10 percent of the normal short time setting.

The apparent cause of this event was a faulty overcurrent device which caused breaker 1B2M to trip on overload due to the current surge when breaker 1A2M was opened.

ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE:

The safety significance of the immediate consequences of this event are considered minimal due to the following:

- a) The reactor was in cold shutdown.
- b) Due to plant conditions, and work in progress at the time, most safety related systems affected by the loss of power were not required to be operable or fully operable.
- c) Due to plant conditions, and work in progress at the time, neither Primary nor Secondary Containment integrity were required to be maintained.
- d) The loss of power was of short duration and was corrected by operation of normal plant controls.
- e) The main core spray pumps were available (without booster pumps) with manual valve operation had core spray systems been required.

The full scram and isolation occurred because both reactor protection systems power supplies were tied together. During power operation, plant procedures do not allow connection of the redundant power supplies (except in emergencies) and thus a loss of power to both systems could not have occurred due to one breaker trip.

Similarly, the loss of redundant safety equipment would not have occurred during normal plant operation. The redundant electrical systems are restricted from being tied together in accordance with plant procedure.

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TEXT (If more space is required, use additional NRC Form 368A's) (17)

CORRECTIVE ACTION:

The immediate corrective action was to regain power to the unit substations 1A2 and 1B2. This was possible because load was added to the substation in increments rather than all at one time. This was a result of non-vital load trips needing to be reset after the initial loss of power to both substations. The defective overload device was replaced on September 11, 1984, and was tested to manufacturer's specifications.

The preventive maintenance history on this breaker indicates:

- 1) A, B, and C phase overload devices were replaced on March 10, 1980 because they were unable to meet manufacturer's specifications.
- 2) The "A" phase overload was replaced on March 23, 1984 during scheduled preventive maintenance. The long time element of the overload could not be adjusted to meet specifications (tripped too fast-at low current).
- 3) Post maintenance testing on September 11, 1984 found the "A" phase overload out of specifications, and unable to be adjusted to manufacturer's specifications. The failure mode is not evident. The failed overload device will be sent to the manufacturer for analysis. Corrective actions will depend on the results of the failure analysis when it becomes available.

(0741V)



**GPU Nuclear Corporation**  
Post Office Box 388  
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609 971-4000  
Writer's Direct Dial Number:

October 12, 1984

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

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report (LER)  
No. 84-020.

Very truly yours,

Peter B. Fiedler  
Vice President and Director  
Oyster Creek

PBF:dsm  
Enclosures

cc: Dr. Thomas E. Murley, Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

NRC Resident Inspector  
Oyster Creek Nuclear Generating Station  
Forked River, NJ 08731

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