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May 21, 1990

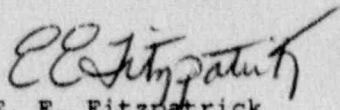
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

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. 90-005.

Very truly yours,


E. E. Fitzpatrick
Vice President & Director
Oyster Creek

EEF:BDe
(ler/Covltrs:jc)
Enclosure

cc: Mr. Thomas Martin, Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Alexander W. Dromerick
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek, Unit 1										DOCKET 2501-10219		PAGE 13 1 OF 14								
TITLE (4) TECHNICAL SPECIFICATION REQUIRED SHUTDOWN REQUIRED BECAUSE OF SAFETY RELATED SWITCHGEAR DUE TO GROUNDED SUPPLY CABLE																				
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 NAME		DOCKET NUMBER (8)									
0	4	2	1	9	0	9	0	0	0	5	2	1	9	0	0	5	0	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																		
POWER LEVEL (10)		20.403(b)				20.405(a)				<input checked="" type="checkbox"/> 60.73(a)(2)(iv)				73.71(b)						
		20.405(a)(1)(i)				60.36(a)(1)				60.73(a)(2)(v)				73.71(a)						
		20.405(a)(1)(ii)				60.36(a)(2)				60.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 205A)						
		20.405(a)(1)(iii)				<input checked="" type="checkbox"/> 60.73(a)(2)(ii)				60.73(a)(2)(vii)(A)										
		20.405(a)(1)(iv)				60.73(a)(2)(iii)				60.73(a)(2)(vii)(B)										
		20.405(a)(1)(v)				60.73(a)(2)(iv)				60.73(a)(2)(ix)										
LICENSEE CONTACT FOR THIS LER (12)																				
NAME M. Godknecht, Plant Engineering										TELEPHONE NUMBER AREA CODE 609 997 1-4 189										
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										
B	EBC	IBL	5	A	3	8	5	Y												
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR						
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										NO		0	7	1	5	9	0			
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																				

On April 21, 1990 at 0955 hours, power was lost to Unit Substation (USS) 1B2 when a power supply cable shorted to ground. Several safety related components were affected by the loss of power, and drywell unidentified leak rate increased to greater than 5 gpm due to loss of power to the Drywell Equipment Drain Tank Pump Control Circuit. The plant was shutdown due to loss-of-power to required electrical busses, and on April 22nd at 1005 hours, the reactor reached cold shutdown. USS 1B2 was isolated from the failed supply cable and reenergized from USS 1A2 via the crossconnect breaker. During the cooldown, the A isolation condenser was declared inoperable due to the inability to electrically cycle a DC isolation valve because of thermal binding. This thermal binding problem will be corrected by modifications scheduled for the next refueling outage. The cause of the cable failure is suspected to be a defect in the insulation of the cable. A new supply cable was installed and the USS was repowered from it's normal source. A representative sample of other cables supplying safety related components were tested, and no generic concerns were found.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) OYSTER CREEK, UNIT 1	DOCKET NUMBER (2) 05000219	LER NUMBER (6)			PAGE (3)	
		YEAR 90	SEQUENTIAL NUMBER 005	REVISION NUMBER 000	2	OF 4

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

DATE OF OCCURRENCE

The event described within this report occurred on April 21, 1990.

IDENTIFICATION OF OCCURRENCE

A loss of electrical power was experienced on Unit Substation 1B2 (EIIC-USS) after the "C" phase supply cable (EIIC-CBL5) shorted to ground. Power was also lost to various pieces of safety related equipment. Due to loss-of-power to the control circuit for the Drywell Equipment Drain Tank (DWEDT) pumps (EIIS-WK), the DWEDT overflowed to the drywell sump and resulted in an increase in unidentified leak rate to greater than 5 gallons per minute. A reactor shutdown was commenced due to loss-of-power to Technical Specification required switchgear, and approximately 24 hours after the loss-of-power, the reactor reached cold shutdown conditions. This occurrence is considered reportable under 10CFR50.73(a)(2)(i)(A) and 10CFR50.73(a)(2)(iv).

CONDITIONS PRIOR TO OCCURRENCE

The reactor was at 100% power, with a generator load of approximately 647 megawatts electric.

DESCRIPTION OF OCCURRENCE

On April 21, 1990 at 0955 hours, power was lost to Unit Substation (USS) 1B2. Investigation showed that the supply breaker to the Unit Substation opened due to a short circuit to ground which developed in the "C" phase of the power supply cable to the Unit Substation. When power was lost to the USS, several motor control centers (EIIC-MCC) also lost power as well as the safety related equipment powered from the USS. The battery chargers (EIIC-BYC) for the B Train of the Vital 125VDC Distribution System (EIIS-EJ) were deenergized during this event, causing the battery (EIIC-BTRY) to carry the load of the system. The loss of power to required busses and motor control centers required that the plant be in a cold shutdown condition within 30 hours. Other safety related systems and components declared inoperable due to the loss-of-power included; Containment Spray System 2 (EIIS-BE) due to loss of power to the pumps, Isolation Condenser B (EIIS-BL) due to loss of power to the AC valves in the system, the B Control Rod Drive pump (EIIS-AA), the B Standby Liquid Control pump (EIIS-BR), and the B train of the Standby Gas Treatment System (EIIS-BH). Several detection panels in the site Fire Protection System (EIIS-IC) were also deenergized and continuous roving fire watches were established to monitor all areas of the plant. The Core Spray Systems I and II (EIIS-BM) were placed in a degraded condition due to a loss of redundancy resulting from an inoperable booster pump in each system. In addition, the Post Accident Sampling System was deenergized due to this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/21/86

FACILITY NAME (1) OYSTER CREEK, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 1 9 9 0 - 0 0 5 - 0 0 0 3 OF 0 4	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	

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

The control circuit for the Drywell Equipment Drain Tank pumps also lost power, which caused this tank to overflow resulting in an unidentified leak rate greater than 5 gpm. This leak rate required that the plant be shutdown within 12 hours and be in cold shutdown within 24 hours.

Because the battery for the B Train of the Vital 125VDC Distribution System was carrying the load of the system, voltage on the battery dropped throughout the event and, after 11 hours, concern for the remaining battery capacity resulted in a decision to manually scram the reactor. The reactor was scrammed at 2014 hours and plant cooldown was commenced. At 2350 hours the A Isolation Condenser was declared inoperable due to the inability to electrically cycle one of the DC isolation valves (EJIC-ISV) because of thermal binding.

On April 22, 1990 at 0820 hours, USS 1B2 was isolated from the failed supply cables and reenergized from USS 1A2 via the 480VAC Electrical Distribution System (EJIS-ED) crossconnect breaker. The loads lost when USS 1B2 was deenergized were recovered satisfactorily. At 1005 hours the reactor was placed in a cold shutdown condition. In addition to the Reactor Protection System (EJIS-JC), a partial primary containment isolation was experienced when instrument panel CIP-3 was transferred to its alternate source of power. No other safety systems were initiated during this event.

APPARENT CAUSE OF OCCURRENCE

The cause of the cable failure is suspected to be a defect in the insulation of the cable. It has been determined that no damage occurred during installation and further lab tests are scheduled to be conducted. A supplemental report will be provided to advise you of the results.

ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE

This event has been determined to have minimal safety significance. All of the systems affected by the loss-of-power, with the exception of the Isolation Condenser System, had redundant systems powered from the other train of the 480VAC Electrical Distribution system. All distribution panels powered from the 1B2 bus that were required to automatically seek alternate sources of power, transferred to their alternate sources as designed.

If required, the B isolation condenser could still have performed its function. Power was lost to the AC powered valves in the system, however the DC powered valves were powered by a DC source not affected by the loss-of-power. These DC valves could have been used to operate the condenser if required. Additionally, the valves on both isolation condensers could have been operated manually.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/21/85

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (3)

PAGE (3)

OYSTER CREEK, UNIT 1

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TEXT (If more space is required, use additional NRC Form 300A's) (17)

The ability to shutdown the plant and reach cold shutdown was not affected by the loss-of-power. Because the reactor was operating at approximately 100% power, and due to the design of redundant components in the affected systems, this event would not have been any more significant at any other power level or in any other plant operating mode.

CORRECTIVE ACTION

The supply cables for Unit Substation 1B2 were disconnected from the transformer for the USS. The switchgear was inspected and tested to ensure that the fault in the cable had not damaged any electrical equipment or the switchgear itself. USS 1B2 was then crossconnected to the other Train in the Electrical Distribution System and reenergized.

A new supply cable was installed and the USS was repowered from it's normal source. The faulty cable was visually inspected and additional testing is scheduled to be performed by a cable testing laboratory. A representative sample of other cables supplying safety related equipment were tested for similar problems. No generic concerns were found. In accordance with a previous commitment, a routine testing program for cables and equipment is scheduled to be instituted during the upcoming refueling outage.

Modifications to the Isolation Condenser System scheduled for the 13R Outage include replacement of the valves experiencing thermal binding.

SIMILAR EVENTS

LER 83-021 Loss of Bus 1A and Stack Gas Sampling Out of Service

LER 88-022 Actuation of ESF Due to Loss of "1D" Electrical Bus Caused by Cable Fault

EQUIPMENT DATA

The failed cable was supplied by Anaconda. The type of cable is: Shielded, 5000 Volt 1/C, 500 MCM, Copper, Unshield Cable.