



**GPU Nuclear**  
P.O. Box 388  
Forked River, New Jersey 08731  
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Writer's Direct Dial Number:

March 4, 1983

Mr. Ronald C. Haynes, Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Dear Mr. Haynes:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report  
Reportable Occurrence No. 50-219/83-02/03L

This letter forwards three copies of a Licensee Event Report (LER) to report Reportable Occurrence No. 50-219/83-02/03L in compliance with paragraph 6.9.2.b.2 of the Technical Specifications. We realize this LER is being submitted beyond the time limitation specified in Technical Specifications, paragraph 6.9.2.b. The cause of the delay is attributed to administrative delay within the department responsible for the investigation of the event described herein and the preparation of this LER.

Very truly yours,

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Peter B. Fiedler  
Vice President and Director  
Oyster Creek

PBF:jal  
Enclosures

cc: Director (40 copies)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Director (3)  
Office of Management Information and  
Program Control  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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

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OYSTER CREEK NUCLEAR GENERATING STATION  
Forked River, New Jersey 08731

Licensee Event Report  
Reportable Occurrence No. 50-219/83-02/03L

Report Date

March 4, 1983

Occurrence Date

January 23, 1983

Identification of Occurrence

Bank 5 (Startup Transformer A) was taken out of service to allow investigation of an electrical fault on the dilution plant power feed. This condition caused operation in a degraded mode permitted by a limiting condition for operation as specified in the Technical Specifications, paragraph 3.7.E.

This event is considered a reportable occurrence as defined in Technical Specifications, paragraph 6.9.2.b.2.

Conditions Prior to Occurrence

The reactor was operating at steady state with the mode switch in RUN.

|        |           |         |
|--------|-----------|---------|
| Power: | Reactor   | 955 MWt |
|        | Generator | 245 MWe |

Description of Occurrence

At 10:44 a.m. on January 23, 1983 Thermal Dilution Pumps 2 and 3 tripped due to a trip of the dilution pumps' main breaker. It was discovered that the dilution plant cabling high voltage terminations (stress cones) had failed. The terminations were located on the load side of the dilution plant main 4160V breaker which draws power from a connection to Bank 5 startup transformer (offsite power). Startup Bank 5 was taken out of service to investigate and test for damage to the transformer or degradation of the cable on the secondary side of Bank 5.

Apparent Cause of Occurrence

The cause of the occurrence is attributed to the failure of the dilution plant power feed terminations. Bank 5 (Startup Transformer A) was removed from service, as a precautionary measure, to ascertain if the cable termination fault had caused damage to the startup bank cables or equipment, which could lead to further failures, and alleviate danger to work crews replacing the failed terminations.

The power feed to the dilution plant is composed of 5KV shielded cable and heat shrink stress cones terminated at an outdoor GE 4.16 AM 250 Magneblast circuit breaker. The visual indications observed following the fault showed the origin of failure at the shield to stress cone interface (the area of highest electric field stress). Further, the fault progressed from inside the cable to the external surface indicating an internal failure of the stress cone due to corona (high field stress). Additional support for a failure due to corona was the time frame between cable installation to cable failure, which was approximately 3 years: the approximate time for new 5KV cable to degrade when excessive corona is present. At the present time it has not been concluded whether the presence of corona in the cable termination was due to construction error or misapplication, although the design was reviewed and appears consistent with the manufacturer's recommendation.

#### Analysis of Occurrence

Startup Bank 5 via startup breaker S1A supplies power to the 1A 4160 bus in the event normal power cannot be supplied by the main generator via the station auxiliary transformer through the 1A main breaker.

The safety significance of this event is considered minimal for the following reason:

During the time that Bank 5 was out of service, had the 1A 4160 bus lost power from the auxiliary transformer, all emergency loads on the 1C bus, which is normally powered by the 1A bus, would have been supplied by Emergency Diesel Generator No.1 which remained in operational condition throughout the entire 12 hour period that Bank 5 was taken out of service.

#### Corrective Action

Startup Bank 5 and its associated cables were satisfactorily meggered and returned to service. The dilution pump power feed terminations were replaced and the dilution pumps were returned to service on January 30, 1983.

As of this date it has not been determined if the installation of the terminations or the material itself was the cause of failure. Although it is not believed from visual evidence that cable or termination design was deficient, the failed sections have been retained and will be sent to the termination manufacturer for evaluation.

Additional high potential testing will be performed during the current refueling outage to further quantify the integrity of the cable terminations in the affected system.

#### Failure Data

Manufacturer: Ray Chem High Voltage Termination HVT-0-A-1-00

Anaconda 5 KV Unishield Power Cable