

Jersey Central Power & Light Company

MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 539-6111

August 17, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545



Dear Mr. Giambusso:

Subject: Oyster Creek Station
Docket No. 50-219
Diesel Generator

The purpose of this letter is to report a failure of a component which could have caused the failure of No. 1 diesel generator to start. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, Paragraph 1.15D. Notification of this event, as required by the Technical Specifications, Paragraph 6.6.2a, was made to the AEC Region 1 Directorate of Regulatory Operations on Wednesday, August 8, 1973.

While conducting a routine six-month surveillance inspection of the No. 1 diesel generator, it was discovered that one of the two starting motors failed to engage. This engagement failure would have prevented the unit from starting under normal conditions. The engagement shaft bushing at the pinion end of the starting motor was discovered to be rotating with the shaft. Due to wear, the bushing had slipped out of position thus preventing the pinion gear from engaging the engine ring gear. Details of the diesel generator starter are as follows:

Manufacturer: Delco Remy
Model No.: 1109758H
Serial No.: 222
Voltage: 64VDC

Prior starter failures, although all associated with failed or weak starter solenoids, are tabulated below:

<u>Date</u>	<u>Diesel Generator</u>	<u>Problem</u>
10/19/69	2	Both starter pinion solenoids were burnt, causing "hard" dc system ground.
2/21/70	1	No reason found.

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Incident 50-219

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<u>Date</u>	<u>Diesel Generator</u>	<u>Problem</u>
10/03/70	1	Starter motor pinions not engaging the ring gear properly.
12/04/72	2	One of the two starter motor pinions failed to engage. Heavier duty solenoid installed.

Based on our review of past starter failures, this appears to be the first one associated with mechanical failure of the starting motor. To correct this situation, a new starter motor was installed and tested satisfactorily. Control lead connections were tightened and a satisfactory operability test was then conducted.

The significance of this event is minimal due to the fact that the difficulty was identified and corrected in conjunction with a routine six-month surveillance inspection. Had this condition gone undetected, a failure of one diesel to start has been considered in Appendix I. to the FDSAR which contains a probability analysis regarding the availability of standby cooling systems and includes an analysis of off-site power availability concurrent with a loss of coolant accident. The results indicated that the reliability of available power from off-site sources or from a self-contained unit -- only one diesel generator was considered in the analysis -- was quite high. Since the station is provided with two separate diesel generator units, having one unit out of service has no effect at all upon the results of the analysis. In addition, the effects of single bus operation during a loss of coolant accident was analyzed in Amendment 32 to the FDSAR and the unit loading under this condition was found to be within the normal KVA rating of the diesel generator. Thus, there is no additional safety significance associated with this event beyond that already analyzed.

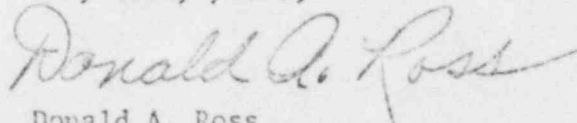
To prevent this type of failure from reoccurring, the diesel manufacturer (General Motors) will be contacted and requested to supply the following:

- (a) Recommendations for a positive locking mechanism to secure the shaft bushing at the pinion end of the starting motor.
- (b) Recommendations for preventative maintenance on the diesel generator starters.

In addition, the station's semi-annual diesel generator inspection procedure will be reviewed and revised, as required, based on the experience gained from this event and possible future recommendations from the manufacturer.

We are enclosing forty copies of this report.

Very truly yours,



Donald A. Ross
Manager, Nuclear Generating Stations

pk

cc: Mr. J. P. O'Reilly, Director
Directorate of Regulatory Operations, Region 1

To: James P. O'Reilly
Directorate of Regulatory Operations
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

From: Jersey Central Power & Light Company
Oyster Creek Nuclear Generating Station Docket #50-219
Forked River, New Jersey 08731

Subject: Abnormal Occurrence Report 73-17.

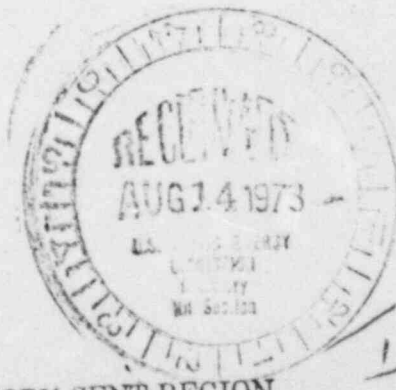
The following is a preliminary report being submitted
in compliance with the Technical Specifications
paragraph 6.6.2.

Preliminary Approval:

J. T. Carroll, Jr. - 8/8/73
J. T. Carroll, Jr. Date

cc: Mr. A. Giambusso ✓

*Reviewing
50219*



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Date: 8/7/73
Time: 2:30 p.m.

Abnormal Occurrence

Report No. 73-17

SUBJECT: Failure of #1 Diesel Generator to start.

This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15D. Notification of this event as required by the Technical Specifications, paragraph 6.6.2.a, was made to AEC Region I, Directorate of Regulatory Operations, by telephone on Wednesday, August 8, 1973, at 11:20 a.m., and by telecopier on Wednesday, August 8, 1973, at 2:40 p.m.

SITUATION: While conducting a routine six-month inspection of #1 Diesel Generator, it was discovered that one of the two starting motors occasionally failed to engage, consequently preventing the unit from starting.

CAUSE: The engagement shaft bushing at the pinion end of the starting motor was discovered to have been rotating with the shaft. Due to wear, the bushing had slipped out of position and prevented the pinion gear from engaging the engine ring gear.

REMEDIAL ACTION:

A new starter motor was installed and tested satisfactorily. However, when an operability test was later attempted, the same starter failed to engage, requiring realignment of the motor. A satisfactory operability test was then conducted and the unit was returned to service.

SAFETY SIGNIFICANCE:

Appendix "L" to the FDSAR contains a probability analysis regarding the availability of standby cooling systems and includes an analysis of off-site power availability concurrent with a loss of coolant accident. The results indicated that the reliability of available power from off-site sources or from a self contained unit - only one (1) diesel generator was considered in the analysis - was quite high. Since the station is provided with two (2) separate diesel generator units, having one (1) unit out of service has no effect at all upon the results of the analysis. In addition, the effects of single bus operation during a loss of coolant accident was analyzed in Amendment 32 to the FDSAR and the unit loading under this condition was found to be within the normal KVA rating of the diesel generator. Thus, there is no additional safety significance associated with this event beyond that already analyzed.

Prepared by:

DR Reeves

Date:

8/8/73