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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

December 20, 1989

10CFR50.36

PRIORITY ROUTING

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Original

FILE

Docket No. 50-461

Mr. A. B. Davis
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Special Report: Test Failure of Division I
Diesel Generator at Clinton Power Station (CPS)

Dear Mr. Davis:

CPS Technical Specification 4.8.1.1.3 requires all diesel generator failures, valid or non-valid, to be reported to the NRC pursuant to Specification 6.9.2, SPECIAL REPORTS. Due to a failure of the Division I Diesel Generator (DG1A) during surveillance testing on November 20, 1989, this SPECIAL REPORT is being submitted in accordance with the CPS Technical Specifications to provide the information required by Regulatory Guide 1.108, Revision 1, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Regulatory Position C.3.b.

Description of Event

At 1256 hours on November 20, 1989, during the performance of CPS Procedure 9080.01, "Diesel Generator 1A (1B) Operability - Manual," DG1A failed to reach rated speed in less than or equal to 12.0 seconds as required by Technical Specification 4.8.1.1.2.a.4. The recorded time to reach rated speed was 12.77 seconds. DG1A was declared inoperable and the appropriate Technical Specification ACTION was entered.

At approximately 1400 hours, Nuclear Station Engineering and a vendor, Woodward Governor, were contacted. After consultation with Woodward representatives and a careful review of the data recorded during the start, the decision was made to compare the speed controller settings of DG1A with those of the Division II Diesel (DG1B). The as-found speed controller settings of DG1A were noticeably different than those of DG1B. With DG1A still operating subsequent to the slow start,

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adjustments to the DGLA speed controller were made under Engineering guidance to more closely match the DGLA speed controller settings with those of the Division II Diesel. Following these adjustments, DGLA would not stabilize under no-load conditions. Woodward Governor was then contacted to provide a service representative on site. Continued adjustments of the DGLA speed controller under Engineering guidance achieved better stability. DGLA was then shut down and allowed to cool to ambient temperature.

At 2258 hours, plant personnel initiated another maintenance start of DGLA. Rated speed was achieved in 9.54 seconds. DGLA was then shut down to await arrival of the Woodward Governor service representative.

At approximately 0900 hours on November 21, 1989, the Woodward Governor service representative arrived on site and was briefed on the current status of the investigation. At approximately 1100 hours, Maintenance, Engineering and the service representative met with Operations to discuss further actions to be performed.

At 1300 hours, a maintenance start of DGLA was performed to allow the service representative to monitor the starting characteristics. The resulting start time for this run was 9.84 seconds. Maintenance personnel performed adjustments as directed by the service representative. The engine was then monitored in a no-load condition, as well as at 20% load. DGLA was then shut down and allowed to cool to ambient temperature.

At 1744 hours, a post-maintenance testing start of DGLA was performed with a resulting start time of 9.69 seconds. At 1746 hours, DGLA was shut down and allowed to cool.

At 2104 hours, the Surveillance run was successfully completed with a resulting start time of 9.69 seconds. DGLA was subsequently declared OPERABLE at approximately 2330 on November 21, 1989.

Cause of Event

A review of the start times for all three diesel generators was conducted. The Division I diesel generator start times are noticeably more erratic than the start times of the other divisional diesel generators. While the solution to this event appears to be the readjustment of the diesel generator governors, other potential contributing causes need to be evaluated and resolved. An Action Plan for resolution of the DGLA slow start times has been developed and is currently being implemented. The objectives of this Action Plan are to identify the root cause and resolve those factors which may impact the ability of DGLA to routinely meet its starting requirements. The design and operating data currently available and observations made during these troubleshooting tests suggest a number of potential contributors to the problem. Under this Action Plan, Illinois Power will investigate these potential contributors to develop a basis for corrective actions. Other factors that may be identified will be addressed appropriately.

Corrective Action

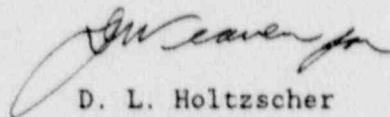
As identified above, speed controller adjustments under the direction of the Woodward Governor service representative provided adequate corrective action to restore DGLA to OPERABLE status. The Action Plan being developed will provide long-term generic corrective action. The objective of the action plan is to install instrumentation on the diesel generator fuel oil and air start systems and gather technical data. This will require scheduling the data gathering and inspections around the required surveillances and scheduling appropriate diesel generator outage times.

Additional Information

This event represents the second valid failure in the last 20 valid tests for DGLA (and the fifth valid failure in the 60 valid tests that have been performed for DGLA since receipt of the operating license). Therefore, the surveillance frequency for DGLA has been increased to once per 7 days in accordance with Technical Specification Table 4.8.1.1.2-1.

On December 11, 1989, DGLA experienced an additional slow start. The SPECIAL REPORT prepared in response to that event will be submitted on or before January 10, 1990, and will include additional information regarding the available results obtained from the DGLA Action Plan discussed in this letter as they apply to the root cause determination of the November 20, and December 11, 1989 failures. The Action Plan will be completed and a final report will be submitted describing the root cause and corrective actions taken to correct the DGLA slow starting condition on or before March 30, 1990. In the meantime, the diesel will be tested at the frequency in accordance with the Technical Specifications.

Sincerely yours,



D. L. Holtzscher
Acting Manager -
Licensing and Safety

DAS/krm

cc: NRC Clinton Licensing Project Manager
NRC Resident Office
NRC Document Control Desk
Illinois Department of Nuclear Safety