

ILLINOIS POWER

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Docket No. 50-461

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

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

Dear Sir:

CPS Technical Specification 4.8.1.1.3 requires all diesel generator failures, valid or non-valid, be reported to the Nuclear Regulatory Commission (NRC) pursuant to Technical Specification 6.9.2, SPECIAL REPORTS, within thirty days. Due to the valid failure of the Division I Diesel Generator (DG1A) during surveillance testing on April 4, 1991, 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

On April 2, 1991, the Division I Diesel Generator (DG1A) was removed from service and declared inoperable to perform routine preventive maintenance. This involved electrically disabling the diesel generator, which includes racking out the DG output breaker.

On April 4, 1991, at 0410 hours, following completion of the preventive maintenance (and with the DG output breaker racked in), surveillance procedure 9080.13, "DG1A(1B) Quick Start Operability", was initiated to restore DG1A to an operable status. During the surveillance, DG1A reached the required voltage and frequency within the time specified by Technical Specification 4.8.1.1.2, but the output breaker failed to close. Operators noted (at approximately 0500 hours) that the DG1A B-C phase undervoltage relay had tripped.

At 0545 hours, the operators checked the relays and noted that the trip condition had cleared. Since both the A-B and B-C phase undervoltage relays must trip to prevent closure of the DG output breaker, failure of the DG output breaker to close was not attributable to undervoltage. No work or testing was performed between 0500 and 0545 hours which would have caused the trip condition to clear.

A maintenance work request (MWR) D17315 was initiated to investigate the reason the output breaker failed to close. The undervoltage and auxiliary relays were removed, inspected, and recalibrated; the breaker cubicle, the control power fuses, and the breaker contacts were inspected. No discrepancies were found.

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Since troubleshooting did not reveal a cause for the DGLA failure, the DG output breaker was racked in and the DG was tested with satisfactory results. Additionally, the diesel generator was loaded and unloaded a number of times, thus causing the output breaker to be cycled several times. This provided reasonable assurance of the breaker's reliability. On April 4, 1991, at 2153 hours, DGLA was declared operable.

Since the failure of the DG output breaker to close was not attributable to undervoltage, no discrepancies were found when investigating the potential cause, and the breaker subsequently functioned properly, no cause for the breaker failure can be ascertained. The cause may have been a failure of the breaker to be completely engaged due to a problem with the breaker racking mechanism, but as previously stated, the breaker subsequently functioned properly.

Corrective Actions

Although proper functioning of the breaker has been verified as described above, a maintenance request has been initiated to inspect and lubricate the racking mechanism for the DGLA output breaker to ensure its proper functioning in the future. This work will be completed when DGLA is next removed from service for a Division I outage. The next Division I outage is currently scheduled for October 1991.

Test Intervals

The April 4, 1991 failure was the sixth failure in the last 100 tests*, and the first failure in the last twenty tests. Technical Specification Table 4.8.1.1.2-1, requires the testing frequency to be increased from at least once per 31 days to at least once per 7 days when the number of failures is greater than or equal to two in the last twenty, or five in the last 100 tests. Therefore, DGLA is, and will be, tested weekly until seven consecutive failure-free demands have been performed.

This letter satisfies the requirement of CPS Technical Specifications 4.8.1.1.3 and 6.9.2 for issuing a SPECIAL REPORT for diesel generator failures.

Sincerely yours,



F. A. Spangenberg, III
Manager, Licensing and Safety

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cc: NRC Clinton Licensing Project Manager
NRC Resident Office
NRC Region III, Regional Administrator
Illinois Department of Nuclear Safety

* Per NRC letter dated 1/25/91, one particular test performed on May 15, 1990, is not included in this total.