



Commonwealth Edison
Byron Nuclear Station
4450 North German Church Road
Byron, Illinois 61010

November 21, 1994

LT: BYRON 94-0459
FILE: 2.07.400

Mr. John Martin
Regional Administrator
Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

SUBJECT: Byron Unit 2 Operating License NPF-66, Docket No. 50-455
Reporting of Emergency Diesel Generator Failures

Dear Mr. Martin:

This report is submitted in accordance with Byron Station Unit 2 Operating License NPF-66 Appendix A, Technical Specification 4.8.1.1.3, Reporting of Diesel Generator Failures.

The attached report addresses one invalid failure experienced on the 2A Diesel Generator due to a degraded ability to manually control generator output voltage. The criteria to determine valid and invalid tests and failures is in accordance with Section C.2.e of Regulatory Guide 1.108, and as such does not affect the testing requirements established in the Byron Technical Specifications.

If you have any questions, feel free to contact Dave Baran (ext. 2050) of the Systems Engineering Department.

Sincerely,

G.K. Schwartz
Station Manager
Byron Nuclear Power Station

GKS/DAB/clb

Attachments

cc: Byron Station NRC Senior Resident Inspector
U.S. NRC Document Control Desk, Washington, D.C.
INPO Record Center
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DIESEL GENERATOR 2A INVALID FAILURE
NOVEMBER 1, 1994

On November 1, 1994, manual voltage control was lost while attempting to synchronize the 2A Diesel Generator (DG) to its associated ESF bus during a monthly surveillance test. DG output voltage remained constant at approximately 4160 volts despite several attempts to adjust voltage locally and remotely. The DG was shutdown and declared inoperable after initial troubleshooting efforts were unsuccessful at identifying the problem. Subsequent troubleshooting focused on all possible inputs to the voltage regulator. The source of the problem was isolated to a failed 125 VDC relay on the Instantaneous Pre-Position circuit board. This circuit board establishes the demand for an output voltage of 4160 volts during an automatic start of the DG on an ESF bus undervoltage or Safety Injection signal. The circuit board was replaced with an upgraded model and the DG was declared operable after the satisfactory completion of the monthly surveillance test.

This DG failure was considered invalid based on a previous 10 CFR 21 applicability evaluation performed in response to failures of the 125 VDC relays on the Instantaneous Pre-Position circuit board. This evaluation determined that the failure of the 125 VDC relay did not adversely affect the 2A DG's ability to perform its design function. The relay failure results in a contact closing on the circuit board which places the voltage regulator in the emergency operating mode. If the safety function of the 2A DG was required, the voltage regulator would have had the proper reference voltage for isochronous operation, and the DG would have performed its safety function. Byron Station 1A, 1B, and 2A now have new Instantaneous Pre-Position circuit boards with an improved circuit design provided by NEI Peebles (generator manufacturer). The 2B DG Instantaneous Pre-Position circuit board was replaced in 1992 with the old design and will be replaced with the new design during the next Unit 2 refueling outage.