



UNITED STATES
 NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
LICENSEE PROPOSED TECHNICAL SPECIFICATION CHANGES TO
SECTION 4.8 "AC SOURCES" NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT UNIT 2
DOCKET NO. 50-410

INTRODUCTION

By letter dated October 21, 1994, Niagara Mohawk Power Corporation requested that facility operating license No. NPF-69 be amended to modify Nine Mile Point Unit 2 (NMP2) Technical Specification (TS) Section 4.8, "AC Sources." The proposed change to TS Surveillance Requirement 4.8.1.1.2.e.8 will permit 24 hour functional testing of the EDG(s) during power operation. Presently this test must be performed during shutdown. This change to TS surveillance requirement will provide testing flexibility, and significant cost savings without a reduction in safety.

The staff has reviewed the licensee's submittal and provides the following evaluation.

BACKGROUND

The emergency power system at NMP2 is divided into three physically separate and electrically independent divisions designated divisions I, II, and III. Each division is equipped with a dedicated EDG and any two out of these three divisions has the capacity and capability to safely shutdown the reactor in case of a loss of coolant accident (LOCA) or other design basis accident (DBA). The safety function of the EDGs is to supply AC electrical power to plant safety systems whenever the preferred AC power supply is unavailable.

EVALUATION

The Licensee is proposing an amendment to the EDG 24 hour functional test at NMP2 to provide testing flexibility and cost savings. The licensee is proposing to perform this test during power operation because of the system alignment during the test, and the EDG's ability to remain operable and available to perform its safety function of supplying emergency power.

During the 24 hour functional test at NMP2 the EDG is loaded by paralleling with the offsite power system. However, only one EDG is paralleled to the offsite source at any one time. Should an accident occur while an EDG is under test, the accident signal overrides the test mode, returns the diesel to standby operation, and the offsite power continues to energize the necessary loads. This function is tested once per cycle in accordance with Surveillance Requirement 4.8.1.1.2.e.11. If the event involves a loss of offsite power, the EDG will be ready to supply the loads within the required time.

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In the event of a loss of offsite power (LOOP) to the bus paralleled to the grid without an accident, the EDG being tested would automatically separate from the offsite source and a load shedding sequence would be initiated on the safety buses. The diesel would then be ready to supply all necessary loads. If a perturbation on the offsite source caused a failure of the EDG under test, the EDGs on the remaining divisions would be available to feed the loads due to the independence that is maintained between the divisions during testing.

At NMP2 the diesel generators are paralleled to the grid during power operation to satisfy a monthly one hour TS surveillance requirement. There will be no difference between the system lineup for this monthly test of the diesel and the lineup of the diesel during the 24 hour functional test. The licensee will only perform the test during power operation provided that the other remaining diesel generators are operable. In addition, the NRC staff will require that the licensee verify that the remaining divisions have the necessary equipment operable to mitigate the consequences of DBA or LOOP, and have procedures with provisions to avoid paralleling EDGs to the offsite source during severe weather or unstable grid conditions.

CONCLUSION

The staff concludes that although performance of the 24 hour EDG functional test during power is contrary to the Standard Technical Specifications, performance of this test during power operation is acceptable due to the followings provisions:

1. The EDGs are equipped with a feature that allows the EDGs to automatically switch from the test mode to the standby mode on the receipt of an accident signal. For example, If the EDG receives a accident signal while in the test mode (paralleled to the grid) the EDG has the capability to automatically disconnect from the offsite power system, return to the standby mode, and supply power to the necessary loads within the required time.
2. During the 24 hour test of an EDG, no other EDG is operated in parallel with the offsite power grid, and the remaining redundant divisions are supplied from a separate independent offsite source. This configuration assures that only one EDG is susceptible to grid perturbations and independent safe shutdown capability is maintained.
3. Assuming a LOOP and a single failure of an EDG, adequate capacity is available from the remaining EDGs to power the remaining divisions, and the remaining divisions will have the required equipment operable to mitigate the consequences of a DBA or LOOP.
4. The EDGs will not be paralleled to the offsite systems during severe weather or unstable grid conditions.



SALP INPUTSUMMARY OF REVIEW:

The Electrical Engineering Branch has reviewed the proposed changes to Nine Mile Point Unit 2 Technical Specification 4.8, "AC Sources" and concludes that the changes are acceptable as noted in the SE.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCEFUNCTIONAL AREA: ENGINEERING/TECHNICAL SUPPORT:

The licensee demonstrated a clear understanding of EDG testing, protection, and its importance to plant safety. The questions asked by the NRC staff were answered promptly and adequately. The Amendment Request was found to be clear, complete, and satisfactory to the staff.

Author: M.D. Pratt
Date: February 2, 1995

