



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 147 TO FACILITY OPERATING LICENSE NO. DPR-63

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION UNIT NO. 1

DOCKET NO. 50-220

1.0 INTRODUCTION

By letter dated January 21, 1994, Niagara Mohawk Power Corporation (the licensee or NMPC) submitted a request for changes to the Nine Mile Point Nuclear Station Unit No. 1 (NMP-1), Technical Specifications (TS). The requested changes would revise TS 4.6.3 (Emergency Power Sources), to eliminate unnecessary testing of an operable emergency diesel generator (EDG) when the redundant EDG becomes inoperable. TS 4.6.3 currently requires that with one EDG inoperable, the operable EDG shall be immediately manually started and operated at rated load for a minimum time of 1 hour and once per week thereafter. The proposed change to TS 4.6.3 would require that with one EDG inoperable from any cause other than an inoperable support system or preplanned maintenance or testing, within 8 hours, either determine that the cause of the EDG being inoperable does not impact the operability of the operable EDG or demonstrate operability by testing the operable EDG. Operability by testing would be demonstrated by achieving steady-state voltage and frequency. This amendment is intended to increase EDG reliability and the overall level of plant safety by reducing the stresses on the EDGs caused by unnecessary testing and by eliminating the requirement to load the operable EDG with the offsite network when it is being tested. The licensee stated that this proposed change is consistent with the guidance provided in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," and NUREG-1433, "Improved Standard Technical Specifications, General Electric Plants."

The NMP-1 emergency AC power distribution system is divided into two physically separate and electrically independent redundant divisions. Each division supplies power to one independent train of emergency core cooling. Each division is normally energized from one of two offsite sources via reserve transformers. Each division is also provided with a standby EDG capable of powering the division in the event offsite power is lost.

The reliability of the EDGs during normal plant operation is demonstrated by routine surveillance testing required by the NMP-1 TSs. In addition to these normal surveillance tests, TS 4.6.3.e requires EDG testing immediately and

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once per week thereafter if an EDG is inoperable. The purpose of the latter testing is to verify that there is no common mode problem that could affect the remaining EDG and to provide additional assurance that the EDG is, in fact, operable during those conditions when it might be called upon.

While the additional testing described above provides assurance that the EDGs are operable, the demands of testing cause additional wear on the EDG components. Operational experience has shown that the TSs have required EDG testing when there was clearly no reason to believe that common mode failure was a possibility. Such testing does not contribute to improved EDG reliability and is considered excessive. Excessive testing is detrimental to the mechanical components and could contribute to an overall reduction in the reliability of an EDG to start and perform its intended function. In view of these considerations, the licensee has proposed a change to TS 4.6.3.e that would eliminate unnecessary EDG testing when an EDG is inoperable.

## 2.0 EVALUATION

TS 4.6.3.e currently requires that with an inoperable EDG, the operable EDG be immediately, and once per week thereafter, manually started and operated at rated load for a minimum of one hour. The operating EDG is connected to the offsite electrical distribution network during these tests. The intent of this additional testing is, in part, to determine if a common mode failure exists in the EDGs and, in part, to provide assurance that the operable EDG is capable of supplying emergency power. This additional testing can result in unnecessary testing of the otherwise operable EDG when an EDG is inoperable and the cause of the inoperability does not impact the operable EDG (i.e., no common mode failure exists).

The licensee has proposed to revise TS 4.6.3.e such that with one EDG inoperable, an operator would be required to determine if the inoperability was due to preplanned maintenance or testing or due to a support system being inoperable. If so, testing of the operable EDG would not be required. If an EDG became inoperable for any cause other than preplanned maintenance or testing or an inoperable support system, the operator would be required to verify that the cause of the inoperability does not affect the operability of the operable EDG (i.e., no common cause failure exists) within 8 hours or test the operable EDG. This proposed change would eliminate the requirement for EDG testing when the inoperability is not due to a common cause failure and will thereby potentially increase EDG reliability by reducing the stresses on the EDG caused by unnecessary testing while maintaining the requirement to perform a single test if a common cause failure exists. The requirement to perform weekly tests thereafter would be deleted. The additional weekly tests are considered unnecessary since the ability of the EDGs to supply their rated outputs is adequately demonstrated by the routine surveillance tests required by the other portions of the TS which are not being changed by this proposed amendment.



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The proposed change would also eliminate the requirement to connect the EDG output to the offsite electrical network and to operate the EDG at rated load for a minimum of 1 hour. The proposed change would require a single test during which operability would be demonstrated by achieving steady-state voltage and frequency. As discussed in NRC Information Notice 84-69, "Operation of Emergency Diesel Generators," when an EDG is being operated connected to the offsite electrical network, the EDG is not independent of disturbances on the offsite power systems that could adversely affect emergency power availability. Therefore, EDG availability could be adversely affected by a demonstration of operability requiring connection of the operable EDG to the offsite electrical network. At a time when one EDG is already inoperable, the current TS could increase the risk of losing the remaining operable EDG. The current TS provide an adequate demonstration of the EDGs ability to supply there rated loads and additional tests to demonstrate the ability of the remaining operable EDG to supply its rated load are unnecessary. Therefore, these proposed changes are acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 10009). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: April 6, 1994

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