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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 11 TO FACILITY OPERATING LICENSE NO. NPF-69

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-410

INTRODUCTION

By letter dated December 15, 1988, Niagara Mohawk Power Corporation (the licensee) has requested changes to Nine Mile Point Unit 2 Technical Specifications sections 4.8.4-4, Reactor Protection System Electric Power Monitoring (RPS Logic), and 4.8.4-5, Reactor Protection System Electric Power Monitoring (Scram Solenoids). These sections provide the surveillance requirements for performance of Channel Functional Tests on the Reactor Protection System Electrical Protection Assemblies. The changes requested by the licensee will require testing at each cold shutdown of greater than 24 hours if the channel functional tests have not been performed within the previous 6 months. This implies a maximum interval of 18 months between testing.

DISCUSSION

The current Nine Mile Point Unit 2 Technical Specifications require a channel functional test to be performed on the Electrical Protection Assemblies on the Reactor Protection System at least once per 6 months. Performance of these tests places the plant in a half scram condition. The loss of a single channel or component in that condition will cause a scram or an isolation. Therefore, this test configuration during operation increases the potential for a Main Steam Isolation Valve closure and/or a reactor scram.

The increase in inadvertent scrams causes an associated increase in shutdown system challenges which lead to increased plant safety risks. Additionally, the limitations and restrictions associated with a half-scram condition in the Reactor Protection System logic make testing during operation very difficult. As a result, the reactor is shut down prior to performing the test. By increasing the test interval the test could be performed during a refueling outage which reduces the potential for unnecessary challenges to the plant shutdown system. The analysis performed by the licensee in support of the Technical Specifications amendment request assumes testing is performed during power operation because the margin of safety provided by the Technical Specification is based on performing the test at power.

The methodology employed by the licensee to perform the analysis was approved by the Commission as documented in the July 15, 1987 letter "Safety Evaluation by the Office of Nuclear Reactor Regulation, Review of BWR Owners Group Reports NEDC-30844 and 30851P on Justification for and Extension of On-Line Test Intervals and Allowable Out-of-Service Times for BWR Reactor Protection Systems." The analysis provided by the licensee applies to an 18-month maximum interval between each Channel Functional Testing. This 18 month maximum interval is established by Surveillance Requirement 4.8.4.4 which requires a Channel Calibration at least once per 18 months. By definition (Technical Specification Section 1.4), the Channel Calibration includes the Channel Functional Test.

The BWR Owners Group Report NEDC 30851P addresses the frequency of the Reactor Protection System channel functional tests. This report demonstrated that a net improvement to plant safety can be realized with implementation of reduced frequency of RPS Channel Functional Tests. This change to reduced frequency has been incorporated in the Technical Specifications of several other BWR Operating plants.

The proposed amendment has no adverse effect on the ability of the reactor protection system and nuclear steam supply shutoff system to perform their intended safety functions. It also reduces the amount of time the plant is in half-a-scram condition and vulnerable to challenges to the plant shutdown systems. The staff has evaluated the analysis provided by the licensee and has concluded that the extension of the current 6-month test interval to a maximum of 18 months is justified as an overall net improvement to plant safety and is, therefore, acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment changes a surveillance requirement. The staff has determined that this 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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 this amendment.

CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

REFERENCE

1) "Safety Evaluation by the Office of Nuclear Reactor Regulation, Review of BWR Owners Group Reports NEDC-30844 and 30851P on Justification for and Extension of on-line Test Intervals and Allowable Out-of-Service Times for BWR Reactor Protection Systems," forwarded to BWROG Chairman T. A. Pickens on July 15, 1987.

Dated: November 29, 1989

PRINCIPAL CONTRIBUTORS:

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