



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.88 TO FACILITY OPERATING LICENSE NO. NPF-69

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT NO. 2

DOCKET NO. 50-410

1.0 INTRODUCTION

By letter dated March 31, 1999, Niagara Mohawk Power Corporation (NMPC or the licensee) proposed a license amendment to change the Technical Specifications (TSs) for Nine Mile Point Nuclear Station, Unit No. 2 (NMP2). The amendment would change TS Table 3.6.1.2-1, titled "Allowable Leak Rates Through Valves in Potential Bypass Leakage Paths," by adding two relief valves to containment penetrations 2DER*Z40 and 2DFR*Z39, along with associated leak rate criteria.

Specifically, NMPC proposes the following changes to TS Table 3.6.2-1:

1. For the Drywell Equipment Drain Line, the reference to the inboard isolation valve (2DER*MOV119) would be replaced with a reference to the isolation valve and its associated relief valve (2DER*MOV 119 AND 2DER*RV344).
2. For the Drywell Floor Drain Line, the reference to the inboard isolation valve (2DFR*MOV121) would be replaced with a reference to the isolation valve and its associated relief valve (2DFR*MOV121 AND 2DFR*RV228).
3. A footnote, identified by a double asterisk and referring to the above two changes, would be added to state: "For valves 2DER*MOV119 and 2DER*RV344, and likewise for valves 2DFR*MOV121 and 2DFR*RV228, this limit shall be the combined allowable leak rate and not the per valve allowable leak rate."

2.0 EVALUATION

Containment Penetrations 2DER*Z40 and 2DFR*Z39 serve the drywell equipment and drywell floor drain lines. During Refueling Outage No. 7 in the spring of 2000, the relief valves will be installed on the drywell equipment and drywell floor drain lines (one relief valve on each drain line) between the inboard containment isolation valve and the primary containment wall. The relief valves will protect the piping between the isolation valves for each penetration against potential overpressurization under certain assumed accident conditions. This modification is in response to NRC Generic Letter (GL) 96-06, "Assurance of Equipment Operability and Containment Integrity during Design-Basis Accident Conditions."

NMPC indicated that each relief valve will be installed between the inboard isolation valve and the primary containment wall, and thus it will serve as an inboard isolation valve for the penetration as well as a potential bypass leakage valve. The current allowable leakage rates per isolation valve for penetrations 2DER*Z40 and 2DFR*Z39, as given in TS Table 3.6.1.2-1, are 1.25 standard cubic feet per hour (scfh) and 1.875 scfh, respectively. The bases for these limits assume one of the isolation valves fails open, with the second isolation leaking at the specified limit. In keeping with this assumption, the new design will limit the total leakage rate for the inboard isolation valve and relief valve combination to the current limits of 1.25 scfh for penetration 2DER*Z40 and 1.875 scfh for penetration 2DFR*Z39. Therefore, the total leakage potential for each penetration will remain within the current analyzed limit. Therefore, the dose rates from postulated accidents will be unaffected.

NMPC indicated that the relief valves will be designed and installed to seismic category 1 and safety-related requirements, as described in NMP2's Updated Safety Analysis Report, Sections 3.2.1 and 3.2.2. The relief valve design, fabrication, and installation will be in accordance with applicable provisions of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and other standards and specifications currently applicable to the penetrations.

The relief valve set pressure will meet the guidance in Part II, Acceptance Criteria, of Standard Review Plan (NUREG-0800), Section 6.2.4., titled "Containment Isolation System," which states "Relief valves may be used as isolation valves, provided the relief setpoint is greater than 1.5 times the containment design pressure." The relief valve configuration satisfies 10 CFR Part 50, Appendix A, General Design Criterion 56 for locked-closed isolation valves.

The normal operating pressure of the Drywell Equipment Drain and Drywell Floor Drain lines is atmospheric, which is sufficiently low to avoid inadvertent lifting of the relief valves. In the event of a stuck-open relief valve constituting a single failure, the closed outboard isolation valve provides a leak tested barrier to bypass leakage. The discharge volume from the new relief valves would be limited to the volume of water that has collected within the penetration. This volume would drain to the suppression pool water and would be negligible compared with the volume discharged to the suppression pool from the design-basis accident.

NMPC states that the relief valves will be added to the Inservice Testing Plan and the 10 CFR Part 50 Appendix J Program Plan for periodic testing. The relief valves will be pressure tested for leakage, consistent with similar testing of other valves located in lines that are potential bypass leakage pathways.

The NRC staff concludes that the proposed installation of relief valves between the inboard and outboard isolation valves will enhance the capability of the associated isolation valves to perform their function without the risk of failure due to piping overpressurization. Consistent with the guidance in GL 96-06, the consequences of a stuck-open relief valve malfunction have been evaluated and are acceptable. The new relief valves and piping will not cause any existing plant design, operating, or testing limits to be exceeded and will meet standards and specifications currently applicable to the penetrations being modified and NRC guidance for set pressure and testing. The existing requirements relating to allowable bypass leakage for the two penetrations affected by this modification, will not be changed. No new bypass leakage paths to the environment will be created and the radiological consequences of adding the relief valves will remain unchanged. Accordingly, the NRC staff finds the proposed revision to TS Table

3.6.1.2-1, adding relief valves to containment penetrations 2DER*Z40 and 2DFR*Z39 and associated leak rate criteria, to be 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 comment.

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. 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 (64 FR 24197). 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: December 16, 1999