ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Proposed Changes to the Current Technical Specifications (TS)

Replace the existing page 3/4 6-6 with the attached revised page 3/4 6-6. The revised page has been retyped in its entirety and includes marginal markings (revision bars) to indicate where changes have been made.

TABLE 3.6.1.2-1

ALLOWABLE LEAK RATES THROUGH VALVES IN POTENTIAL BYPASS LEAKAGE PATHS

LINE DESCRIPTION	VALVE MARK NO.	TERMINATION REGION	PER VALVE LEAK RATE, SCFH
4 Main Steam Lines	2MSS*AOV6A, B, C, D 2MSS*AOV7A, B, C, D	Turbine Bldg.	24.0
Main Steam Drain Line (Inboard)	2MSS*MOV111, 112	Turbine Bldg.	1.875
Main Steam Drain Line (Outboard)	2MSS*MOV208	Turbine Bldg.	0.625
4 Postaccident Sampling Lines	2CMS*SOV77A, B 2CMS*SOV74A, B 2CMS*SOV75A, B 2CMS*SOV76A, B	Radwaste Tunnel	0.2344
Drywell Equipment Drain Line	2DER*MOV119 AND 2DER*RV344 2DER*MOV120	Radwaste Tunnel	1.25**
Drywell Equipment Vent Line	2DER*MOV130 2DER*MOV131	Radwaste Tunnel	0.625
Drywell Floor Drain Line	2DFR*MOV120 2DFR*MOV121 AND 2DFR*RV228	Radwaste Tunnel	1.875**
Drywell Floor Vent Line	2DFR*MOV139 2DFR*MOV140	Radwaste Tunnel	0.9375
RWCU Line	2WCS*MOV102 2WCS*MOV112	Turbine Bldg.	2.5
Feedwater Line	2FWS*AOV23A 2FWS*V12A 2FWS*AOV23B 2FWS*V12B	Turbine Bldg.	12.0
CPS Supply Line to Drywell	2CPS*AOV104 2CPS*AOV106	Standby Gas Trtmt. Area	4.38
CPS Supply Line to Drywell	2CPS*SOV120 2CPS*SOV122	Standby Gas Trtmt. Area	0.625
CPS Supply Line to Supp. Chamber	2CPS*AOV105 2CPS*AOV107	Standby Gas Trtmt. Area	3.75
CPS Supply Line to Supp. Chamber	2CPS*SOV119 2CPS*SOV121	Standby Gas Trtmt. Area	0.625

** For valves 2DER*MOV 119 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.

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION
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Supporting Information and No Significant Hazards Consideration Analysis

INTRODUCTION

This amendment application revises Table 3.6.1.2-1 of the Nine Mile Point Unit 2 (NMP2) Technical Specifications (TS), titled "Allowable Leak Rates through Valves in Potential Bypass Leakage Paths." This revision is the result of containment penetration modifications being implemented by Niagara Mohawk Power Corporation (NMPC) in response to NRC Generic Letter (GL) 96-06, "Assurance of Equipment Operability and Containment Integrity during Design-Basis Accident Conditions." These modifications will be implemented during Refueling Outage Number 7 (RFO7), which is expected to begin in the Spring of 2000.

GL 96-06, dated September 30, 1996, notified nuclear power plant licensees that thermally induced overpressurization of isolated water-filled piping sections in containment could jeopardize the ability of accident-mitigating systems to perform their safety functions and could also lead to a breach of containment integrity. GL 96-06 requested licensees to determine the potential for thermal overpressurization in piping systems that penetrate the containment and submit a 120-day written response stating their conclusions and the corrective actions taken or planned to be taken. The GL cautioned that if relief valves are installed to prevent overpressure conditions, consideration must be given to the effects of stuck-open relief valves and associated environmental flooding and radiation hazards.

By letter dated February 7, 1997 (NMP1L 1178), NMPC provided the 120-day response for Nine Mile Point Unit 1 (NMP1) and NMP2. As explained in that response, the evaluation of thermally-induced overpressurization was separated into two equipment types: a) the primary containment penetration and associated piping between the inboard and outboard containment isolation valves, and b) piping segments inside primary containment. A screening process was utilized to determine if piping systems that penetrate the containment are susceptible to thermal expansion of fluid leading to overpressurization of piping. The response listed a number of piping penetrations potentially susceptible to overpressurization. These included penetrations 2DER*Z40 and 2DFR*Z39, which serve the drywell equipment and floor drains, respectively, and which are the subject of this TS amendment application. Piping through these two penetrations represents potential bypass leakage paths from the containment to the environment after a design basis accident. The two isolation valves associated with the drywell equipment drain line penetration [2DER*MOV119 and 2DER*MOV120] and the two isolation valves associated with the drywell floor drain line penetration [2DFR*MOV120 and 2DFR*MOV121] are therefore subject to maximum allowable leakage limits, which are specified in TS Table 3.6.1.2-1.

The closure times for isolation valves 2DER*MOV119, 2DER*MOV120, 2DFR*MOV120, and 2DFR*MOV121 are stated in Table 6.2-56 of the NMP2 Updated Safety Analysis Report (USAR). All four valves are also included in the NMP2 Inservice Testing (IST) Program. Design calculations were developed to determine if the two drain lines would be water solid due to closing of both isolation valves after a containment isolation signal. It was found that if the valves close at different times with the outboard valve closing first, there is a potential for the penetrations to become water solid under certain assumed conditions.

By a letter dated January 20, 1999 (NMP2L 1848), NMPC informed the NRC of its decision to install thermal relief valves on penetrations 2DER*Z40 and 2DFR*Z39 during RFO7 to protect the piping against potential overpressurization. Each relief valve will be installed between the inboard isolation valve and the primary containment wall. Thus, by virtue of its location, the relief valve will serve as an inboard isolation valve for the penetration as well as a potential bypass leakage valve.

EVALUATION

Bypass Leakage Criteria

As explained under Introduction, penetrations 2DER*Z40 and 2DFR*Z39 constitute potential bypass pathways from the primary containment to the environment after a design basis accident and for this reason their isolation valves are included in TS Table 3.6.1.2-1. Restricting leakage through potential bypass pathways ensures that the radiological consequences of the design basis accident are within the limits of 10CFR50 Appendix A, General Design Criterion (GDC) 19, and 10CFR100. The allowable leakage rates for the penetrations and associated valves listed in TS Table 3.6.1.2-1 were calculated based on the methodology specified in USAR Sections 6.2.3.2.3 and 6.2.3.2.4, and Tables 6.2-55a through 6.2-55c.

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 basis for these limits assumes one of the isolation valves fails open, with the second isolation valve 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 and 1.875 scfh. In this way, the total leakage potential for each penetration remains within the current analyzed limit. As a result, the accident dose rates are unaffected and remain within the limits of 10CFR50 Appendix A, GDC 19, and 10CFR100.

Revisions to TS Table 3.6.1.2-1

Revisions to Table 3.6.1.2-1 as the result of this amendment application are as follows:

- For the Drywell Equipment Drain Line, the reference to the inboard isolation valve [2DER*MOV119] will be replaced with a reference to the isolation valve and its associated relief valve [2DER*MOV119 AND 2DER*RV344].

- For the Drywell Floor Drain Line, the reference to the inboard isolation valve [2DFR*MOV121] will be replaced with a reference to the isolation valve and its associated relief valve [2DFR*MOV121 AND 2DFR*RV228].

- A double asterisked footnote referring to the above two changes will be added, stating:

  "For valves 2DER*MOV 119 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."

Relief Valve Installation Design

The relief valves will be seismic category 1 and safety-related, as described in USAR Sections 3.2.1 and 3.2.2. The relief valve design, fabrication, and installation will be in accordance with applicable provisions of the ASME Boiler and Pressure Vessel Code (ASME Code) and other standards and specifications currently applicable to the penetrations.

Conformance to Regulatory Requirements

The relief valve configuration satisfies GDC 56. GDC 56 allows one automatic isolation valve inside and one automatic isolation valve outside containment on lines that connect directly to the containment atmosphere and penetrate primary reactor containment.

The relief valve set pressure meets the guidance in Part II, Acceptance Criteria, of Standard Review Plan 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."

Relief Valve Malfunctions

The normal operating pressure of the DER and DFR lines is atmospheric, which is sufficiently low to avoid inadvertent lifting of the relief valves.

The potential for the relief valves to lift from thermal expansion of trapped fluid during normal plant operation has been evaluated and determined to be unlikely. The DER and DFR systems are in service during normal plant operation because of reactor coolant system leakage monitoring required by the TS. In the unlikely event that a penetration is isolated during normal operation, any fluid expansion would be minimal, and would cause the valve to weep rather than lift in order to relieve internal pressure. In addition, both relief valves will be physically located in the air space inside the suppression chamber and their discharge will drain into the suppression pool water.

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.

Under post-accident conditions, the relief valves may also be subject to backpressure due to pressurized containment. This backpressure could be as high as 45 psig (containment design pressure). This will raise the faulted pressure inside the penetration piping relative

to reactor building pressure outside the primary containment by the same amount as the backpressure. The backpressure and other added loads have been determined not to result in the associated piping, penetrations, and isolation valves exceeding the allowable stress limits for normal/upset, emergency, and faulted conditions, as applicable.

Environmental Flooding/Radiation Hazard

The discharge volume from the new relief valves will be limited to the volume of water that has collected within the penetration. This volume will drain to the suppression pool water and will be negligible compared with the volume of water discharged to the suppression pool from the design basis accident (loss of coolant accident or main steam line break).

As primary containment integrity and associated bypass leakage criteria are not affected by this modification, the radiation hazard due to the modification remains within existing analyzed limits.

Relief Valve Testing

The relief valves will be added to the Inservice Testing Program Plan and the 10CFR50 Appendix J Program Plan for periodic testing. In accordance with TS 3.6.1.2.d, the new relief valves will be pressure tested for leakage, consistent with similar testing of other valves located in lines that are potential bypass leakage pathways.

CONCLUSION

This amendment application revises Table 3.6.1.2-1, titled "Allowable Leak Rates through Valves in Potential Bypass Leakage Paths," of the NMP2 TS. This revision is the result of NMPC's decision to add relief valves to containment penetrations 2DER*Z40 and 2DFR*Z39, which serve the drywell equipment and drywell floor drains, respectively, during the next refueling outage (RFO7). 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 96-06, dated September 30, 1996.

The revision to Table 3.6.1.2-1 consists of adding the new relief valves to the bypass leakage valves listed in this table, along with a footnote clarifying that the combined allowable leak rate for each relief valve and its associated isolation valve inside the primary containment shall be the same as the allowable rate currently specified in the table for the isolation valve alone. As a result, the radiological consequences of adding the relief valves will remain within NMP2's current licensing basis.

The relief valve installations will meet standards and specifications currently applicable to the penetrations being modified. The relief valve configuration, set pressure, and testing meet applicable NRC guidance. Consistent with the guidance in Generic Letter 96-06, the consequences of a stuck-open relief valve malfunction have been evaluated and are acceptable. It is, therefore, concluded that there is reasonable assurance that the health and safety of the public will not be adversely affected by the proposed modification or the proposed revision to the NMP2 TS.

ANALYSIS

According to 10CFR50.91, at the time a licensee requests an amendment to its operating license, the licensee must provide to the NRC its analysis using the standards in 10CFR50.92 concerning the issue of no significant hazards consideration. According to 10CFR50.92(c) a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or

3. Involve a significant reduction in a margin of safety.

NMPC has evaluated this proposed amendment pursuant to 10CFR50.91 and has determined that it involves no significant hazards considerations.

The following analyses have been performed:

<u>The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.</u>

The proposed amendment will add one relief valve on the drywell equipment drain line (penetration 2DER*Z40) and one relief valve on the drywell floor drain line (penetration 2DFR*Z39). These valves will be installed on piping between the inboard containment isolation valve and the primary containment wall. These drain lines represent potential bypass leakage paths from the primary containment to the environment and are subject to maximum allowable isolation valve leak rates, as specified in Table 3.6.1.2-1 of the Technical Specifications (TS). The purpose of adding relief valves is to protect the piping between the inboard and outboard isolation valves against thermally induced overpressure under postulated accident conditions when both isolation valves close, and the fluid trapped between them may heat up and expand. The new relief valves and piping will not cause any existing plant design, operating, or testing limits to be exceeded. The relief valve installations will meet standards and specifications currently applicable to the penetrations being modified. The relief valve configuration, set pressure, and testing meet applicable NRC guidance. No different precursors or new accident initiators are introduced as the result of the proposed modification. Therefore, this proposed amendment does not involve a significant increase in the probability of an accident previously evaluated.

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 no new failure modes will be introduced. Should the relief valves open and fail to close, the effectiveness of the containment and other fission product barriers will not be compromised. As a result, accident dose rates will remain unchanged and within the limits of 10CFR50, Appendix A, General Design Criterion 19, and 10CFR100. None of the accident assumptions described in Section 6.2, titled

"Containment Systems" and Chapter 15, titled "Accident Analysis," of the NMP2 Updated Safety Analysis Report (USAR) is adversely affected by the proposed modifications. Therefore, this proposed amendment does not involve a significant increase in the consequences of an accident previously evaluated.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The isolation valves associated with penetrations 2DER*Z40 (drywell equipment drain line) and 2DFR*Z39 (drywell floor drain line) perform an accident mitigation function by isolating the containment during and after certain postulated accidents. The addition of relief valves between the inboard and outboard isolation valves will enhance the capability of the existing isolation valves to perform their function without the risk of failure due to piping overpressurization. Consistent with the guidance in Generic Letter 96-06, the consequences of a stuck-open relief valve malfunction have been evaluated and are acceptable. Should the relief valve fail to close after opening, the existing outboard isolation valve will perform its function to isolate the containment. Therefore, operation of NMP2 in accordance with this proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.

The proposed installation of the relief valves will not adversely affect primary containment integrity, the maximum allowable leak rates for the affected penetrations, any other fission product barriers, or any plant safety/operational limits. The relief valves will assure that the associated isolation valves do not fail as the result of piping overpressure during and after postulated accidents, which will preserve the radiological margin of safety. Therefore, operation of NMP2 in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Eligibility for Categorical Exclusion from Performing an Environmental Assessment

10 CFR 51.22 provides criteria for, and identification of, licensing and regulatory actions eligible for exclusion from performing an environmental assessment. Niagara Mohawk Power Corporation (NMPC) has reviewed the proposed amendment and determined that it does not involve a significant hazards consideration, and there will be no significant change in the types or a significant increase in the amounts of any effluents that may be released offsite; nor will there be any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with this license amendment application.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Mark-Up Copy of the Proposed Changes to the Current Technical Specifications (TS)

Page 3/4 6-6 of the current TS has been marked up by hand to reflect the proposed changes.

TABLE 3.6.1.2-1

ALLOWABLE LEAK RATES THROUGH VALVES IN POTENTIAL BYPASS LEAKAGE PATHS

LINE DESCRIPTION	VALVE MARK NO	TERMINATION REGION	PER VALVE LEAK RATE, SCFH
4 Main Steam Lines	2MSS*AOV6A, B, C, D 2MSS*AOV7A, B, C, D	Turbine Bldg.	24.0
Main Steam Drain Line (Inboard)	2MSS*MOV111, 112	Turbine Bldg.	1.875
Main Steam Drain Line (Outboard)	2MSS*MOV208	Turbine Bldg.	0.625
4 Postaccident Sampling Lines	2CMS*SOV77A, B 2CMS*SOV74A, B 2CMS*SOV75A, B 2CMS*SOV76A, B	Radwaste Tunnel	0.2344
Drywell Equipment Drain Line	2DER*MOV119 AND 2DER*MOV120 2DER*RV344	Radwaste Tunnel	1.25**
Drywell Equipment Vent Line	2DER*MOV130 2DER*MOV131	Radwaste Tunnel	0.625
Drywell Floor Drain Line	2DFR*MOV120 2DFR*MOV121 AND 2DFR*RV228	Radwaste Tunnel	1.875**
Drywell Floor Vent Line	2DFR*MOV139 2DFR*MOV140	Radwaste Tunnel	0.9375
RWCU Line	2WCS*MOV102 2WCS*MOV112	Turbine Bldg.	2.5
Feedwater Line	2FWS*AOV23A 2FWS*V12A 2FWS*AOV23B 2FWS*V12B	Turbine Bldg.	12.0
CPS Supply Line to Drywell	2CPS*AOV104 2CPS*AOV106	Standby Gas Trtmt. Area	4.38
CPS Supply Line to Drywell	2CPS*SOV120 2CPS*SOV122	Standby Gas Trtmt. Area	0.625
CPS Supply Line to Supp. Chamber	2CPS*AOV105 2CPS*AOV107	Standby Gas Trtmt. Area	3.75
CPS Supply Line to Supp. Chamber	2CPS*SOV119 2CPS*SOV121	Standby Gas Trtmt. Area	0.625

** 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.