ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

Proposed Changes to Technical Specifications (Appendix A)

Replace the existing page 71 with the attached revised page. This page has been retyped in its entirety with a marginal marking to indicate the change to the text. Add new page 73a.

6198G

LIMITING CONDITION FOR OPERATION

3.1.8 HIGH PRESSURE COOLANT INJECTION

Applicability:

Applies to the operational status of the high pressure coolant injection system.

Objective:

To assure the capability of the high pressure coolant injection system to cool reactor fuel in the event of a loss-of-coolant accident.

Specification:

a. During the power operating condition* whenever the reactor coolant pressure is greater than 110 psig and the reactor coolant temperature is greater than saturation temperature, the high pressure coolant injection system shall be operable except as specified in Specification "b" below.

b. If a redundant component of the high pressure coolant injection system becomes inoperable the high pressure coolant injection shall be considered operable provided that the component is returned to an operable condition within 15 days and the additional surveillance required is performed.

* One Feedwater Pump blocking valve in one HPCI pump train may be closed during reactor startup when core power is equal to or less than 25% of rated thermal power.

SURVEILLANCE REQUIREMENT

4.1.8 HIGH PRESSURE COOLANT INJECTION

Applicability:

Applies to the periodic testing requirements for the high pressure coolant injection system.

Objective:

To verify the operability of the high pressure coolant injection system.

Specification:

The high pressure coolant injection surveillance shall be performed as indicated below:

a. At least once per operating cycle -

Automatic start-up of the high pressure coolant injection system shall be demonstrated.

b. At least once per quarter -

Pump operability shall be determined.

BASES FOR 3.1.8 AND 4.1.8 HIGH PRESSURE COOLANT INJECTION

During reactor startup with periods of low reactor water feed demand, one feedwater train is operated with a blocking valve closed downstream of the main flow control valve when core power is less than or equal to 25% of rated thermal power. This allows the low flow control valve to control the reactor water flow during the startup period when feedwater flow demand is low. Use of the low flow control valve provides more uniform feedwater flow which reduces thermal cycling at the reactor pressure vessel feedwater nozzles and in the feedwater piping as well as eliminating a severe service condition in the main flow control valves during reactor startup. Under low feedwater flow conditions, the main flow control valves also experience high pressure drops and fluid velocities which shorten the valve's life and can cause plant transients due to control valve failure. Reactor startup with one HPCI train available is acceptable since LOCA makeup requirements are reduced during startup because of lower reactor pressure, less decay heat, and lower reactor power than assumed in LOCA analyses performed to Appendix K 10 CFR 50 requirements. The other feedwater train (other HPCI loop) with its blocking valve open would remain capable of supplying 3,800 gpm of feedwater upon automatic HPCI initiation at all reactor pressures.

[illegible]

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Supporting Information and No Significant Hazards Consideration Analysis

The proposed change will allow plant startup with the operating motor driven feedwater pump blocking valve in the closed position. This blocking valve is motor operated. The blocking valve on the other train would be open. In this evaluation, the term main flow control valve refers to Flow Control Valves 11 or 12 controlling flow of their respective electric motor driven feedwater pumps. The minimum flow control valve is a bypass valve around the main flow control valve and is intended to control feedwater flow during periods of low feedwater demand. Figure 1 shows a piping schematic.

This change in the startup procedure results from Niagara Mohawk's engineering review of the feedwater transient of December 1987 that resulted from failure of a flow control valve (FCV 13B). One recommendation of that design review was to reduce the excessive service conditions that result when the main flow control valves are used to control feedwater flow during periods of low flow demand. Under low flow conditions, the main flow control valves experience high pressure drop and high flow velocity. Use of the low flow control valves during the startup would eliminate part of this low flow operation in the main valves. Leakage through the main flow control valves causes the low flow control valves to be ineffective when the blocking valves are open. Leakage through this type of valve is typical and is large enough that feedwater flow (at low demand) is not controlled by the low flow control valves, but by adjusting recycle flow back to the condenser. Closing the blocking valve would eliminate this leakage. In addition, use of the low flow control valves will reduce thermal cycling that is currently experienced on the reactor feedwater nozzles and feedwater piping.(1)

It is estimated that the low flow control valve will pass approximately 1250 gpm of feedwater at reactor operating pressure. At lower reactor pressure, the amount would be larger (2000 gpm below 350 psi). The blocking valve will be opened prior to exceeding 25% rated thermal power.

(1) Thermal cycling at the Reactor Water Cleanup/Feedwater (RWCU/FW) mixing tee occurs when a fixed Reactor Water Cleanup (RWCU) return flow is mixed with cooler varying amounts of feedwater. Thermal cycling is experienced at the reactor vessel feedwater nozzles because of variations in the reactor water feedwater flow rate and temperature.

When the reactor is in the process of startup, the LOCA makeup requirements are reduced because of lower pressures, decay heat, and reactor power than those assumed in Appendix K, 10 CFR 50 requirements. With the feedwater blocking valve closed. This feedwater train would be capable of providing approximately 1250 gpm of feedwater to the reactor up to a reactor pressure of 1050 psig. The other feedwater train (Preferred HPCI train) with its blocking valve open would remain capable of supplying 3800 gpm of feedwater upon automatic HPCI initiation at all reactor pressures. Plant procedure (N1-OP-43, Startup and Shutdown) is being revised to require reactor startup with the non-preferred HPCI train (Feedwater Pump 11) in service. Closure of the low flow by-pass valve on the operating train would occur on HPCI initiation but the reactor operator could manually initiate opening of the closed blocking valve. This valve would be open in approximately 60 seconds after initiation.

Plant startup would be initiated with the feedwater pump train having a closed blocking valve. This train is capable of providing feedwater to approximately 9% of rated steam flow. At this point the idle feedwater train (blocking valve open and capable of providing approximately 20% of rated steam flow) would be started and after assuring reactor water level was controlled, the first feedwater train will be secured. Power ascension would continue until reactor feedwater demand reached the point (approximately 20% rated power) at which time the first feedwater train (blocking valve is still closed) is required. This train would be started and when reactor power approached 25% rated thermal power, the blocking valve would be opened and power ascension continued.

The HPCI system is not intended to be an engineered safety feature. Its operation is not assumed during accident scenarios. HPCI will provide a reliable high pressure source of makeup water for the reactor during small pipe break LOCAs and minimize the need to use the auto-depressurization system (ADS). (ADS is necessary to depressurize the reactor and enable the Core Spray System to perform its function.) Offsite power is necessary for HPCI operation. During reactor startup when normal offsite power is available, both trains of HPCI will automatically initiate upon receiving a HPCI initiation signal. The train with the blocking valve open would provide 3800 gpm of makeup water to the reactor and control the reactor water level at 65 inches (if it was Feedwater Pump No. 11) or 72 inches (if it was Feedwater Pump No. 12).

<u>The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any accident previously evaluated</u>.

Modification of the reactor startup procedure does not introduce any new type of operation. Reactor startup is a normal plant evolution; consequently, changes in the operating procedure will not introduce any new or different type of accident from any accident previously evaluated.

<u>The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety</u>.

Makeup water capability is assured since the core spray system is available. In addition, one train of HPCI remains available upon automatic initiation to provide the normal HPCI flow of 3800 gpm. Opening time of the closed blocking valve would be approximately 60 seconds after manual initiation.

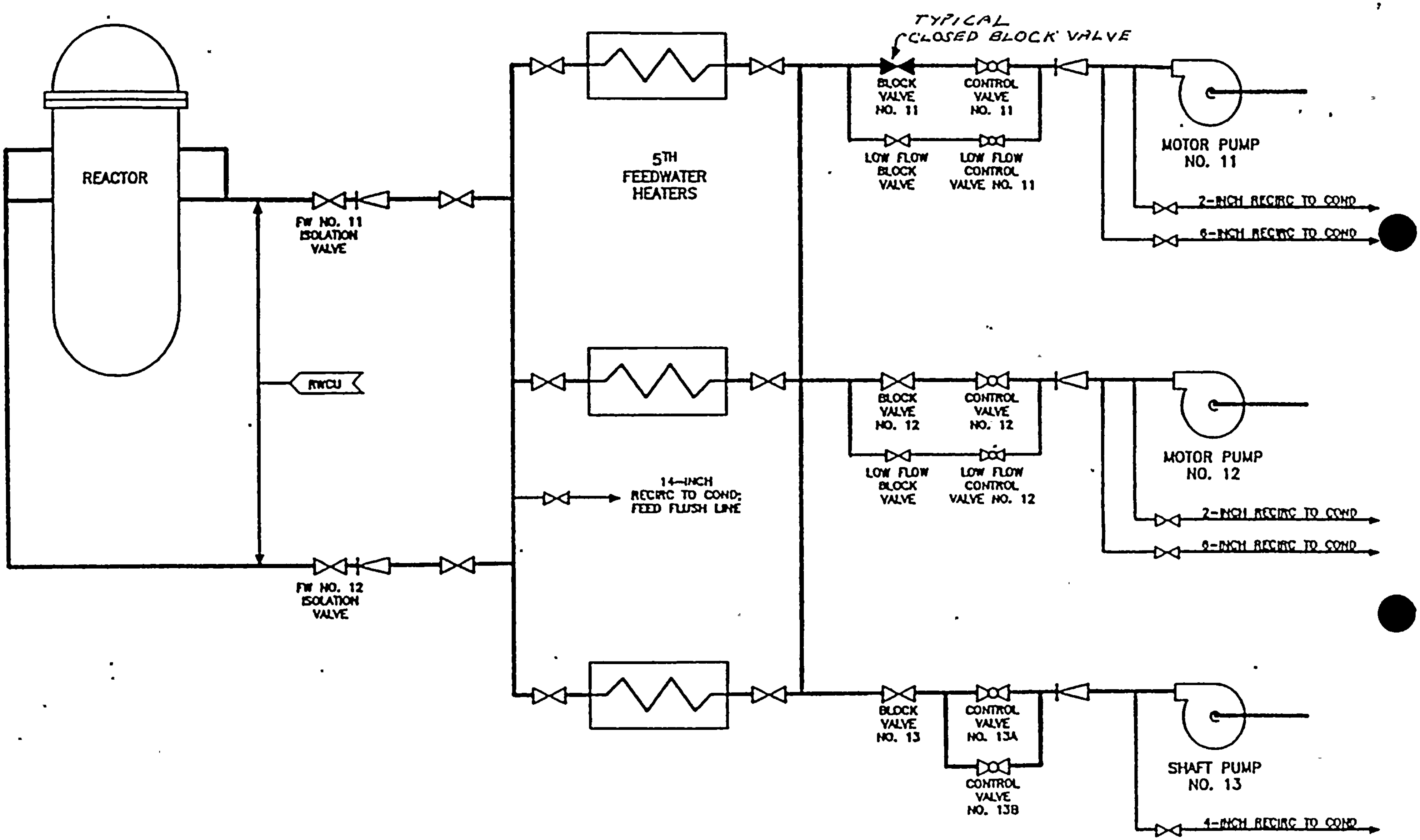
Operational control of the feedwater system is enhanced by improved reactor water level control and will substantially reduce thermal cycling and stresses on the feedwater piping and reactor vessel nozzles. Reduction in wear of the main flow control valves is achieved, resulting in improved service life. Potential feedwater transients resulting from major valve failure is reduced.

HPCI is not credited in establishing safety margins since it is not a safety grade system.

Consequently, there is no significant reduction in any margin of safety.

<u>The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated</u>.

The HPCI system is not considered an engineered safety feature and its operation was not considered in analyses demonstrating compliance with 10 CFR 50 Appendix K requirements. Since this system is not credited for water makeup capability in the event of a loss-of-coolant accident, operation with one HPCI train available during reactor startup will have no adverse effect on any previously evaluated accident. Core spray is the design basis system to provide makeup water capability.



NMP-1 HIGH PRESSURE FEEDWATER SYSTEM SCHEMATIC

FIGURE 1