

ATTACHMENT A

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

Proposed Changes to the Technical Specifications

Replace existing pages 3/4 1-9 and 3/4 1-10 with the attached revised pages. These pages have been retyped in their entirety with marginal markings to indicate changes to the text.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITIONS FOR OPERATION

3.1.3.5 All control rod scram accumulators shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

a. In OPERATIONAL CONDITIONS 1 or 2:

1. With one control rod scram accumulator inoperable:

- a) If reactor steam dome pressure is greater than or equal to 900 psig, within 8 hours declare the control rod associated with the inoperable accumulator inoperable.

Otherwise, place the reactor mode switch in the Shutdown position.

- b) If reactor steam dome pressure is less than 900 psig, declare the associated control rod inoperable and if the associated control rod is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch.

Otherwise, place the reactor mode switch in the Shutdown position.

2. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:

- a) If the control rod associated with any inoperable scram accumulator is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch. Otherwise:

- 1) If reactor steam dome pressure is greater than or equal to 900 psig, restart at least one control rod drive pump within 20 minutes and then immediately insert at least one withdrawn control rod at least one notch or place the reactor mode switch in the Shutdown position, or

- 2) If reactor steam dome pressure is less than 900 psig, immediately place the reactor mode switch in the Shutdown position.

- b) Insert the inoperable control rods and disarm the associated control valves either:

- 1) Electrically, or

* At least the accumulator associated with each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITIONS FOR OPERATION

3.1.3.5.a.2.b) (Continued)

ACTION:

- 2) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within 12 hours.

b. In OPERATIONAL CONDITION 5*:

1. With one withdrawn control rod with its associated scram accumulator inoperable, insert the affected control rod and disarm the associated directional control valves within 1 hour, either:
 - a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.
2. With more than one withdrawn control rod with the associated scram accumulator inoperable or no control rod drive pump operating, immediately place the reactor mode switch in the Shutdown position.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.5 Each control rod scram accumulator shall be determined OPERABLE:

- a. At least once per 7 days by verifying that the indicated pressure is greater than or equal to 940 psig unless the control rod is inserted and disarmed or scrambled.
- b. At least once per 18 months by:
 1. Performance of a:
 - a) CHANNEL FUNCTIONAL TEST of the leak detectors, and
 - b) CHANNEL CALIBRATION of the pressure detectors, and verifying an alarm setpoint of greater than or equal to 940 psig on decreasing pressure.

* At least the accumulator associated with each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2

ATTACHMENT B

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

Supporting Information and No Significant Hazards Consideration Analysis

BACKGROUND

The Nine Mile Point Unit 2 (NMP2) Technical Specifications (TSs) allow continued operation with one inoperable scram accumulator with or without an operating Control Rod Drive (CRD) pump, regardless of reactor steam dome pressure. This allowance is based on the assumption that at reactor steam dome pressures less than 900 psig with no CRD pump operating, the accumulator check valves assure the operable scram accumulators provide sufficient pressure to scram the associated rods. The adequacy of the accumulator check valves is assured by the leak test requirements of Surveillance Requirement 4.1.3.5.b.2. At reactor steam dome pressures of 900 psig or greater, reactor steam dome pressure alone is sufficient to scram the remaining control rods.

Niagara Mohawk proposes to remove the testing requirement for the accumulator check valves, consistent with the Improved Standard Technical Specifications. Without a leak test requirement for the accumulator check valves, no credit can be taken for accumulators when the operating CRD pump trips. Therefore, additional TS changes are required to restrict operation when no CRD pump is operating. The required actions of Limiting Condition for Operation (LCO) 3.1.3.5 are being modified such that when one or more accumulators are inoperable and associated control rods are withdrawn, and the operating CRD pump trips at reactor steam dome pressures below 900 psig, the operator will be required to immediately place the mode switch in the shutdown position. The proposed changes also allow the operator 20 minutes to restart at least one CRD pump provided reactor pressure is greater than or equal to 900 psig.

DESCRIPTION OF PROPOSED CHANGES

Current action a for LCO 3.1.3.5, "Control Rod Scram Accumulator"

- a. In OPERATIONAL CONDITIONS 1 or 2:
 - 1. With one control rod scram accumulator inoperable, within 8 hours:
 - a) Restore the inoperable accumulator to OPERABLE status, or
 - b) Declare the control rod associated with the inoperable accumulator inoperable.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

2. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:
 - a) If the control rod associated with any inoperable scram accumulator is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch or place the reactor mode switch in the Shutdown position.
 - b) Insert the inoperable control rods and disarm the associated control valves either:
 - 1) Electrically, or
 - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within 12 hours.

Proposed action a for LCO 3.1.3.5, "Control Rod Scram Accumulator"

a. In OPERATIONAL CONDITIONS 1 or 2:

1. With one control rod scram accumulator inoperable:
 - a) If reactor steam dome pressure is greater than or equal to 900 psig, within 8 hours declare the control rod associated with the inoperable accumulator inoperable.

Otherwise, place the reactor mode switch in the Shutdown position.
 - b) If reactor steam dome pressure is less than 900 psig, declare the associated control rod inoperable and if the associated control rod is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch.

Otherwise, place the reactor mode switch in the Shutdown position.
2. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:
 - a) If the control rod associated with any inoperable scram accumulator is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch. Otherwise:
 - 1) If reactor steam dome pressure is greater than or equal to 900 psig, restart at least one control rod drive pump within 20

minutes and then immediately insert at least one withdrawn control rod at least one notch or place the reactor mode switch in the Shutdown position, or

- 2) If reactor steam dome pressure is less than 900 psig, immediately place the reactor mode switch in the Shutdown position.
- b) Insert the inoperable control rods and disarm the associated control valves either:
- 1) Electrically, or
 - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within 12 hours.

Surveillance Requirement 4.1.3.5.b.2, "Control Rod Scram Accumulators"

Present Wording: Measuring and recording for up to 10 minutes that each individual accumulator check valve maintains the associated accumulator pressure above the alarm setpoint with no control rod drive pump, charging water supplying the scram accumulators by closing charging water manual isolation valve V28 and depressurizing charging water header by opening valves V67 and V68.

The proposed change will remove Surveillance Requirement 4.1.3.5.b.2.

EVALUATION

The control rod scram accumulators are provided to ensure that the control rods scram under varying reactor steam dome pressures. The accumulators store sufficient energy to fully insert a control rod at any reactor vessel pressure. The accumulator check valves function during a transient to retain drive pressure in the accumulator after the operating CRD pump trips. The proposed amendment removes the testing requirement for the accumulator check valves, consistent with the Improved Standard Technical Specifications. Without a leak test requirement for the accumulator check valves, the ability of the scram accumulators to retain pressure after a CRD pump trip is not assured and no credit can be taken for accumulators when the operating CRD pump trips. However, at reactor steam dome pressures greater than or equal to 900 psig, the scram insertion time of an individual control rod with zero accumulator pressure (i.e., no CRD pump operating) would still be within TS and design basis requirements. Also, the average scram time for all drives would continue to meet design basis requirements.

Therefore, to support deletion of the leak test requirement on the scram accumulator check valves, additional TS changes are required to restrict operation when no CRD pump is operating. The proposed changes provide operating flexibility where plant safety is not an immediate concern and prevent operation in a condition where inoperable accumulators

are required to support the scram function. The proposed TSs permit continued operation with one inoperable scram accumulator and no operating CRD pump, provided reactor steam dome pressure is greater than or equal to 900 psig and the associated control rod is declared inoperable within 8 hours. This is based on adequate shutdown margin and the ability of the affected control rod to scram with only reactor steam dome pressure.

With two or more scram accumulators inoperable, no CRD pump operating, and reactor steam dome pressure greater than 900 psig, reactor steam dome pressure alone will fully insert all control rods. However, with inadequate charging water pressure, all of the accumulators could become inoperable during a depressurization transient, resulting in a potentially severe degradation of the scram performance. Adequate pressure must still be restored to the charging water header. Therefore, with two or more inoperable scram accumulators and an associated control rod withdrawn, and no operating CRD pump, the proposed TSs require starting a CRD pump within 20 minutes and then immediately verifying charging water pressure by inserting a rod one notch. Otherwise, an immediate shutdown is required. The 20 minute completion time provides a reasonable time to place a CRD pump into service to restore charging header pressure and recognizes the ability of reactor steam dome pressure alone to fully insert all control rods. In addition, control rods associated with inoperable accumulators are declared inoperable and inserted.

At reactor steam dome pressures below 900 psig, the function of the accumulators in providing scram force becomes much more important since the scram function could become severely degraded during a depressurization event. Therefore, when reactor steam dome pressure is less than 900 psig and a control rod associated with an inoperable accumulator is withdrawn, a CRD pump must be verified as operating or the mode switch must be placed in the Shutdown position. The shutdown is initiated since withdrawn control rods with inoperable scram accumulators may fail to scram under these low pressure conditions.

As stated above, a reactor steam dome pressure greater than 900 psig will fully insert control rods with inoperable scram accumulators. However, during a depressurization event the scram function for withdrawn control rods associated with inoperable scram accumulators could become severely degraded. Withdrawn control rods with inoperable scram accumulators may fail to scram under postulated low pressure conditions. Therefore, in addition to the above required actions, the TS will continue to require that withdrawn control rods associated with inoperable scram accumulators be inserted and disarmed. This action will minimize the likelihood of multiple rods failing to insert during a depressurization or other transient event.

Based on the above, there are no longer any requirements that the accumulator check valves maintain accumulator pressure for a specified time period should no CRD pump be operating. The Technical Specifications maintain adequate Surveillance Requirements to assure the accumulators remain operable. Additionally, in the event of an inoperable accumulator, CRD operation is required by the revised actions to be checked to ensure the accumulators are being maintained in a charged/pressurized state. With no operating CRD pump, the reactor must be placed in a non-applicable mode. Therefore, the accumulator check valve Surveillance Requirements have been deleted.

CONCLUSION

The proposed changes would eliminate leak rate testing of the scram accumulator check valves. Corresponding changes are also proposed to the required actions of LCO 3.1.3.5 for inoperable scram accumulators. The proposed changes provide assurance that accumulators remain operable without leak testing accumulator check valves. The proposed required actions would limit plant operation when scram accumulators are inoperable and CRD pumps are not operating. The proposed TSs require immediate shutdown (i.e., placing the mode switch in Shutdown) when control rods associated with inoperable accumulators are withdrawn, no CRD pump is operating, and reactor steam dome pressure is insufficient to insert control rods (i.e., less than 900 psig). Immediate shutdown under these circumstances protects against the possible loss of scram function.

Additional, but less severe actions are added for reactor steam dome pressures greater than or equal to 900 psig. Continued operation with one scram accumulator inoperable and the associated withdrawn control rod declared inoperable is acceptable since adequate shutdown margin exists and the control rod can still meet its scram time requirements based on reactor steam dome pressure alone. The proposed changes permit 20 minutes to start a CRD pump, upon discovery of no CRD pump operating, with two or more accumulators inoperable and any associated control rod withdrawn. This is acceptable since 20 minutes provides a reasonable time to place the CRD pump in service and recognizes the ability of reactor steam dome pressure alone (i.e., 900 psig) to fully insert all control rods.

The effect of the proposed changes has been evaluated and found to have no resulting impact on system reliability or performance. The TS actions take no credit for the leak tightness of the scram accumulator check valves. The TSs prohibit operation in conditions where scram insertion capability is not adequately protected. The operability of the scram accumulators is still assured during other conditions and adequate scram insertion capability is maintained over the entire range of reactor steam dome pressures. The requirement to insert and disarm control rods associated with inoperable scram accumulators assures the scram function will not be degraded during rapid depressurization or other transient events. Therefore, there is reasonable assurance that operation of Nine Mile Point Unit 2 in the proposed manner will not endanger the public health and safety and that issuance of the proposed amendment will not be inimical to the common defense and security.

10 CFR § 50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis using the standards in 10 CFR § 50.92 concerning the issue of no significant hazards consideration. Therefore, in accordance with 10 CFR § 50.91, the following analysis has been performed:

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.

The proposed changes would eliminate leak rate testing of the scram accumulator check valves. Corresponding changes would restrict plant operation such that either adequate

charging water header or reactor steam dome pressure is available to insert control rods when scram accumulators are inoperable. The proposed changes provide operating flexibility where plant safety is not an immediate concern and prevent operation in a condition where inoperable accumulators are required to support the scram function. If neither charging water header or reactor steam dome pressure is adequate to meet scram insertion times, immediate shutdown is required by placing the mode switch in the Shutdown position. When adequate reactor steam dome pressure exists to assure scram capability, a limited period of time is allowed to restore a CRD pump to service. To protect against loss of scram capability during rapid depressurization, control rods associated with multiple inoperable scram accumulators are inserted and disarmed. Since the changes assure control rod operability during applicable operational conditions, the probability of CRD system failure is not significantly increased. Thus, the probability of an ATWS event is not significantly increased.

The proposed required actions assure that either adequate charging water pressure or adequate reactor steam dome pressure is always available to support the scram function. The ability of the CRD system to perform its function during various degraded operating conditions is assured by the proposed changes. Those circumstances where scram function is not assured require immediate shutdown. Therefore, operation of Nine Mile Point Unit 2 in accordance with this proposed amendment will not involve a significant increase in the probability or 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 safety function of the scram accumulator is to assist in control rod insertion when reactor steam dome pressure alone is insufficient. Prompt operator action is still required to prevent circumstances where scram accumulators with withdrawn rods are inoperable and reactor steam dome pressure might be insufficient to scram the reactor. Thus, the capability of the control rods to perform their safety function, i.e., insert within the required time, will not be affected by the proposed changes.

The proposed additions to LCO 3.1.3.5 action statements will assure the scram capability of all control rods while reducing the probability of forced shutdowns and the associated demands on safety systems. The additional LCO action (i.e., shutdown if reactor steam dome pressure is less than 900 psig with no operating CRD pump) provides for prompt operator action to prevent operation in a condition where inoperable accumulators might be required to support the scram function.

In addition, the proposed changes do not represent a physical change to the plant as described in the NMP2 Updated Safety Analysis Report. The proposed changes do not modify any equipment nor do they create any potential initiating events that would create any new or different kinds of accident. As such, the plant initial conditions utilized for the design basis accident analysis are still valid. Therefore, 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 previously assessed.

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.

At normal reactor steam dome pressure (i.e., greater than or equal to 900 psig), reactor steam dome pressure alone is sufficient to scram the control rods. The proposed TS changes allow the plant operator 20 minutes to restart at least one CRD pump if there is more than one inoperable scram accumulator and reactor steam dome pressure is equal to or greater than 900 psig. To protect against degradation of the scram function during a depressurization event, the proposed changes require inserting and disarming control rods associated with multiple inoperable scram accumulators. The proposed TS changes require immediate shutdown if no CRD pumps are operating, reactor steam dome pressure is less than 900 psig, and one or more inoperable scram accumulators have associated control rods withdrawn.

The control rod system is designed to bring the reactor subcritical at a rate fast enough to prevent fuel thermal parameters from exceeding their respective safety limits during plant events. The safety function of the scram accumulators is to assist in control rod insertion when the reactor steam dome pressure alone is insufficient. The proposed changes do not affect the capability of the control rods to perform their safety function and provide proper reactivity insertion within the required time. Therefore, the fuel cladding safety limit will not be affected as the MCPR limit will continue to be met. The proposed changes do not affect the basis for any Technical Specification and previously established safety limits remain valid. Therefore, 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.