ATTACHMENT A

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

PROPOSED CHANGES TO 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.

003461LL

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, 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a) If the control rod associated with any inoperable scram accumulator is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch. If no control rod drive pump is operating and:

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equal to 900 psig, restart at least one control drive pump within 20 minutes and then immediately insert at least one withdrawn control rod at least one notch or place the reactor mode switch in the Shutdown position, or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

* At least the accumulator associated with each withdrawn control rod.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.

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITIONS FOR OPERATION

3.1.3.5 (Continued)

ACTION:

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 With one withdrawn control rod with its associated scram accumulator inoperable, insert the affected control rod and disarm the associated directional control valves within 1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 With more than one withdrawn control rod with the associated scram accumulator inoperable or no control rod drive pump operating, immediately place the reactor mode switch in the Shutdown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 scrammed.

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.

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SUPPORTING INFORMATION AND NO SIGNIFICANT HAZARDS CONSIDERATIONS ANALYSIS

BACKGROUND

As part of their May 22, 1990 Safety Evaluation of Limerick's Technical Specification (TS) change request dated November 17, 1989, the Staff reviewed the TS requirements on the control rod drive (CRD) hydraulic system for all domestic BWRs. Based on their evaluation, the Staff proposed that Surveillance Requirement (SR) 4.1.3.5.b.2 on the accumulator check valves be removed from the eight other operating BWRs that have this requirement. The Staff also evaluated Limerick's request to modify Action a.2.a of Limiting Condition for Operation (LCO) 3.1.3.5 to allow the reactor operator 20 minutes to restart at least one CRD pump provided that reactor pressure is greater than or equal to 900 psig. If reactor pressure is less than 900 psig the operator will immediately place the reactor mode switch in the shutdown position. The Staff concluded that Limerick's proposal to trip the reactor if pressure is less than 900 psig, no CRD pump is in operation, and more than one accumulator is inoperable was conservative and therefore, acceptable. The proposed change to Action a.2.a of LCO 3.1.3.5 was previously approved in the originally issued TS for Fermi 2, Hope Creek, and Perry. The above changes are also consistent with the Improved Standard Technical Specifications. The amendment contained herein proposes to remove SR 4.1.3.5.b.2 and modify Action a.2.a of LCO 3.1.3.5 in the Nine Mile Point Unit 2 (NMP2) TS as described above.

DESCRIPTION OF CHANGE

Limiting Condition for Operation 3.1.3.5.a.2.a, "Control Rod Scram Accumulators"

Present Wording: 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.

Proposed Wording: 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. If no control rod drive pump is operating and:

1) Reactor 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) Reactor pressure is less than 900 psig, place the reactor mode switch in the Shutdown position.

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 in its entirety.

EVALUATION

During normal plant operation, one CRD supply pump is operating at all times and the other pump is maintained in standby. The operating pump maintains the required pressure in all 185 control rod scram accumulators such that the accumulators contain sufficient stored energy to ensure the complete insertion of all control rods in the required time at any reactor pressure. However, when reactor pressure is close to, or at full operating pressure, reactor pressure alone will insert the control rods in the required time. The stored energy in the accumulators may assist in accelerating the control rods initially, but this assistance is not necessary to ensure a successful scram. In fact, reactor pressure is sufficient to fully insert all the control rods at a reactor pressure as low as 600 psig.

With more than one accumulator inoperable and a control rod associated with an inoperable accumulator withdrawn, Action a.2.a of LCO 3.1.3.5 currently requires either verifying that a CRD pump is operating by inserting a control rod at least one notch or immediately placing the mode switch in shutdown. The proposed change to Action a.2.a would change the actions required when more than one accumulator is inoperable and a control rod associated with an inoperable accumulator is withdrawn. Under the proposed change, the reactor operator would have 20 minutes to restart at least one CRD pump and then immediately insert at least one withdrawn control rod at least one notch, provided that reactor pressure is greater than or equal to 900 psig. If reactor pressure is less than 900 psig, the proposed change would require the operator to immediately place the mode switch in the shutdown position. There are two CRD pumps, one of which is normally operating while the other is maintained in standby. The switchover from one pump to the other is not automatic. Twenty minutes will allow operators time to realign the system and restart a CRD pump. As previously stated, at reactor pressures above 600 psig, system pressure alone is sufficient to insert the control rods. Therefore, not having an operating CRD pump to maintain pressure in the charging water header is not a significant safety concern during normal plant operation (i.e., reactor pressure greater than 900 psig). The operators in the Control Room are immediately alerted if the operating CRD pump trips or if there is low pressure in the charging water system. With reactor pressure greater than 900 psig, the allowance of 20 minutes to restart a CRD pump is a reasonable time and has been approved for other BWRs (i.e., Fermi 2, Hope Creek, Perry and Limerick 1 and 2). The proposal to trip the reactor if pressure is less than 900 psig and there is no CRD pump in operation provides for prompt operator action to prevent reactor operation in a condition where inoperable accumulators are required to support the scram function. The proposed changes to Action a.2.a of LCO 3.1.3.5 will reduce the probability of unnecessary forced shutdowns and the associated demands on safety systems and will ensure the scram capability of all control rods. This change is also consistent with the Improved Standard Technical Specifications.

The proposed removal of SR 4.1.3.5.b.2 does not eliminate testing and maintenance of the scram accumulator check valves. Surveillance Requirement 4.0.5 in the NMP2 TS requires that inservice testing (IST) of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Code. The NMP2 IST Program requires that a scram accumulator pressure decay test be performed during refueling outages to verify the reverse flow closure of the charging water check valves. To verify that the check valves close, the charging water header is depressurized and accumulator pressure and low pressure alarms are monitored. This testing requirement assures that the check valves are installed properly, periodically tested, maintained as needed, and function correctly following maintenance. Therefore, proper testing and operation of the scram accumulator check valves will continue to be ensured by the TS required IST Program. The proposed removal of SR 4.1.3.5.b.2 is consistent with the Improved Standard Technical Specifications.

At system pressures above 600 psig, reactor pressure provides adequate energy to insert the control rods without the assistance of the accumulators. Thus, during normal operation, the leak tightness of the scram accumulator check valves is not a concern, since the scram accumulators are not necessary to safely shutdown the plant. At reactor pressures greater than 900 psig, the scram insertion time of an individual control rod with zero accumulator pressure would be within TS and design basis requirements. Also, the average scram time for all drives would continue to meet design requirements.

The Staff has evaluated the potential for the loss of a CRD hydraulic system pump at low reactor vessel pressure with leakage of multiple scram accumulator check valves followed by an accident situation that would require a reactor shutdown (reference February 19, 1985 Staff Memorandum regarding Generic Issue No. 98 - CRD Accumulator Valve Leakage). The event probability was calculated to be on the order of 10^{-13}/year, and the Staff recommended that Generic Issue No. 98 be dropped based on the very small risk involved. If a CRD pump were to fail during startup, the proposed changes would require an operator to restart at least one CRD pump within 20 minutes for reactor pressures greater than or equal to 900 psig or place the reactor mode switch in the shutdown position if reactor pressure is less than 900 psig.

CONCLUSION

The safety function of the scram accumulators is to assist in control rod insertion when reactor pressure alone is insufficient. The proposed changes do not affect the capability of the control rods to perform their safety function, i.e., provide proper reactivity insertion within the required time.

The proposed changes to Action a.2.a of LCO 3.1.3.5 provide time for operators to take corrective action when plant safety is not threatened rather than force an immediate shutdown. Immediately placing the mode switch in the shutdown position when reactor pressure is above 900 psig imposes an unnecessary transient upon the plant and causes unnecessary challenges to plant systems and components. The operator will still place the mode switch in shutdown should reactor pressure fall below 900 psig. Removal of the 18 month leak test specified by SR 4.1.3.5.b.2 does not affect the reliability of the check valves because operability of the scram accumulator check valves is assured by TS Section 4.0.5 which requires that inservice testing of the check valves comply with the ASME Code, Section XI. In addition, the proposed changes do not represent a physical change in the plant or a change to the design bases as described in the NMP2 Updated Safety Analysis Report (USAR). Therefore, there is reasonable assurance that operation of NMP2 in the proposed manner will not endanger the public health and safety, and the issuance of the proposed amendment will not be inimical to the common defense and security.

10CFR50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis, using the standards in 10CFR50.92, concerning the issue of no significant hazards consideration. Therefore, in accordance with 10CFR50.91, 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 to Action a.2.a of LCO 3.1.3.5 provide additional operating flexibility where plant safety is not an immediate concern and prevent plant operation in a condition when the accumulators are required to support the scram function. Removal of the 18 month leak test specified by SR 4.1.3.5.b.2 does not affect the reliability of the check valves because operability of the scram accumulator check valves is assured by TS Section 4.0.5 which requires that inservice testing of the check valves comply with ASME Code, Section XI. In addition, the proposed changes will not affect nor change any plant hardware, plant design or plant system operation from that already described in the USAR. Therefore, the proposed changes do not modify or add any initiating parameters that would significantly increase the probability or consequences of any accident previously analyzed.

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 pressure alone is insufficient. Prompt operator action is still required to prevent circumstances where more than one scram accumulator is inoperable and reactor pressure might be insufficient to scram the plant. The capability of the control rods to perform their safety function and provide proper reactivity insertion within the required time will not be affected by the proposed changes.

The proposed additions to the LCO 3.1.3.5 action statement will assure the scram capability of all control rods and reduce the probability of unnecessary forced shutdowns and the associated demands on safety systems. The additional LCO Action proposed (i.e., shutdown if reactor pressure is less than 900 psig) provides for prompt operator action to prevent reactor operation in a condition where the accumulators are required to support the scram function. Removal of SR 4.1.3.5.b.2 does not eliminate testing and maintenance of the scram accumulator check valves. Testing and operation of the scram accumulator check valves will continue to be demonstrated by the TS required IST Program.

In addition, the proposed changes do not represent a change in the plant or the design bases as described in the NMP2 USAR. The proposed changes do not modify any equipment nor do they create any potential initiating events that would create any new or different kind of accident. As such, the plant initial conditions utilized for the design basis accident analyses are still valid. The current USAR will remain accurate with respect to its discussion of the licensing basis events and its analysis of plant response and consequences. Therefore, the proposed changes do 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.

At normal reactor pressure (i.e., greater than 900 psig), reactor 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 pressure is equal to or greater than 900 psig. Control rod scram accumulators and accumulator check valves are required to support the scram function only at reactor pressures less than 600 psig. To prevent approaching the 600 psig limit, the proposed TS requires plant operators to immediately scram the reactor if there is more than one inoperable scram accumulator and there is not a CRD pump operating when reactor pressure is less than 900 psig. The proposed removal of SR 4.1.3.5.b.2 does not affect the reliability of the scram accumulator check valves because operability of these valves is assured by TS 4.0.5 which requires inservice testing per Section XI of the ASME Code.

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 limiting plant events. The safety function of the scram accumulators is to assist in control rod insertion when reactor 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 integrity safety limit will not be affected as the MCPR limit will continue to be met.

For the reasons stated above, the proposed changes do not involve a significant reduction in a margin of safety.

As determined by the analysis above, this proposed amendment involves no significant hazards considerations.