Niagara Mohawk

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February 5, 2001
NMP2L 1996

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69
TAC No. MB0301

Subject: Proposed Technical Specification Changes - Excess Flow Check Valve Testing

Gentlemen:

Niagara Mohawk Power Corporation (NMPC) hereby transmits an Application for Amendment to Nine Mile Point Unit 2 (NMP2) Operating License NPF-69. Enclosed are proposed changes to the Technical Specifications set forth in Appendix A to the above mentioned license. These changes are included as Attachment A. Supporting information and analyses demonstrating that the proposed changes to Technical Specification (TS) 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)" involve no significant hazards consideration pursuant to 10CFR50.92 are included in Attachment B to this letter. Attachment C provides a "marked-up" copy of the TS pages showing the proposed revisions. Corresponding changes have been initiated to the TS Bases and have been included to assist the NRC in its review of the proposed changes. NMPC's determination that the proposed changes to TS 3.6.1.3 meet the criteria for categorical exclusion from performing an environmental assessment is included in Attachment D.

TS Surveillance Requirement (SR) 3.6.1.3.9 currently requires verification of the actuation capability of each excess flow check valve (EFCV) every 24 months. One proposed change will result in limiting the SR to only the reactor instrumentation line EFCVs. The requirement for testing of EFCVs other than those in reactor instrumentation lines is proposed to be relocated to a Licensee-controlled document. Another proposed change is to revise the SR by allowing a representative sample of reactor instrumentation line EFCVs to be tested every 24 months, such that each EFCV will be tested every 10 years (nominal). The bases for these proposed changes are consistent with approved generic change TSTF-334 and GE Nuclear Energy topical report, NEDO-32977-A, dated June 2000.

Instrument line EFCVs are contained within the scope of NMP2's inservice testing program. For consistency with the proposed changes, a request for relief from the American Society of Mechanical Engineers Code requirements will be submitted separately in accordance with 10CFR50.55a(a)(3)(i).

A001

NMPC requests that this amendment be approved by December 31, 2001 in order to support refueling outage eight for NMP2, scheduled for the spring of 2002. Pursuant to 10CFR50.91(b)(1), NMPC has provided a copy of this license amendment request and the analyses regarding no significant hazards consideration to the appropriate state representative.

Very truly yours,

John H. Mueller
Senior Vice President and
Chief Nuclear Officer

JHM/DEV/cld
Attachments

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Ms. M. K. Gamberoni, Section Chief PD-I, Section 1, NRR
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR
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Records Management

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Niagara Mohawk Power Corporation	)	**Docket No. 50-410**
	)	
Nine Mile Point Unit 2	)	

APPLICATION FOR AMENDMENT TO OPERATING LICENSE

Pursuant to Section 50.90 of the Regulations of the Nuclear Regulatory Commission, Niagara Mohawk Power Corporation, holder of Facility Operating License No. NPF-69, hereby requests that Section 3.6.1.3 of the Technical Specifications set forth in Appendix A to that license be amended. The proposed changes have been reviewed in accordance with the Quality Assurance Program Topical Report.

The proposed Technical Specification changes are set forth in Attachment A to this application. Section 3.6.1.3 contains requirements regarding primary containment isolation valves. Surveillance Requirement (SR) 3.6.1.3.9 currently requires verification of the actuation capability of each excess flow check valve (EFCV) at least once per 24 months. One proposed change will result in limiting the SR to only those EFCVs in instrumentation lines connected to the reactor coolant pressure boundary. The requirement for testing of EFCVs other than those in reactor instrumentation lines is proposed to be relocated to a Licensee-controlled document. Another proposed change is to revise the SR by allowing a representative sample of reactor instrumentation line EFCVs to be tested every 24 months, such that each reactor instrumentation line EFCV will be tested every 10 years (nominal).

The proposed changes will not authorize any change in the type of effluents or in the authorized power level of the facility. Supporting information and analyses which demonstrate that the proposed change involves no significant hazards consideration pursuant to 10CFR50.92 is included as Attachment B.

WHEREFORE, Applicant respectively requests that Appendix A to Facility Operating License No. NPF-69 be amended in the form attached hereto as Attachment A.

NIAGARA MOHAWK POWER CORPORATION

SANDRA A. OSWALD
Notary Public, State of New York
No. 01OS6032276
Qualified in Oswego County
Commission Expires 10/25/01

By John H. Mueller

John H. Mueller
Senior Vice President and
Chief Nuclear Officer

Subscribed and sworn to before me
On this 5th day of Feb., 2001.

Sandra A. Oswald
NOTARY PUBLIC

ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. NPF-69

DOCKET NO. 50-410

Proposed Changes to Technical Specifications

Replace the existing Technical Specification page with the attached revised page. The revised page has been retyped in its entirety with marginal markings to indicate changes to the text.

Remove	Insert
3.6.1.3-12	3.6.1.3-12

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.6	Perform leakage rate testing for each primary containment purge valve with resilient seals.	184 days AND Once within 92 days after opening the valve
SR 3.6.1.3.7	Verify the isolation time of each MSIV is $\geq$ 3 seconds and $\leq$ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.6.1.3.8	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	24 months
SR 3.6.1.3.9	Verify a representative sample of reactor instrumentation line EFCVs actuates to the isolation position on an actual or simulated instrument line break signal.	24 months
SR 3.6.1.3.10	Remove and test the explosive squib from each shear isolation valve of the TIP System.	24 months on a STAGGERED TEST BASIS
SR 3.6.1.3.11	Verify the leakage rate for the secondary containment bypass leakage paths is within the limits of Table 3.6.1.3-1 when pressurized to $\geq$ 40 psig.	In accordance with 10 CFR 50 Appendix J Testing Program Plan

(continued)

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. NPF-69

DOCKET NO. 50-410

Supporting Information and No Significant Hazards Analysis

INTRODUCTION

The purpose of this Amendment application is to provide an evaluation of the proposed changes, and to provide information supporting the determination that a significant hazards consideration is not involved in connection with the issuance of this amendment. The benefits of the proposed changes include the reduction of costs of labor during outages, the reduction of occupational exposure to workers, and the reduction of outage lengths.

Niagara Mohawk Power Corporation (NMPC), as licensee for Nine Mile Point Unit 2 (NMP2), requests that the Technical Specifications (TS) contained in Appendix A to Operating License NPF-69 be amended to revise TS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)." TS Surveillance Requirement (SR) 3.6.1.3.9 currently requires verification of the actuation capability of each excess flow check valve (EFCV) every 24 months. The 24 month frequency is based on the need to perform this SR under the conditions that apply during a plant outage and the potential for an unplanned transient if the SR were performed with the reactor at power. One proposed change will result in limiting the SR to only the reactor instrumentation line EFCVs. Another proposed change is to revise the SR by allowing a representative sample of reactor instrumentation line EFCVs to be tested at least once every 24 months, such that each EFCV will be tested at least once every 10 years (nominal). The TS and associated Bases pages showing the proposed changes are included in Attachment C.

Instrument lines penetrating primary containment are designed in accordance with Regulatory Guide 1.11. EFCVs are located in instrumentation lines connected to the reactor coolant pressure boundary (reactor instrumentation lines) and in other selected instrument lines, including those that monitor containment atmosphere and suppression pool level. Opening a test drain valve downstream from the EFCV with the reactor pressurized, and verifying proper actuation, tests each reactor instrumentation line EFCV. Pressurizing through a test connection, opening a downstream drain valve, and verifying proper actuation, tests each EFCV in instrument lines other than those connected to the reactor coolant pressure boundary (RCPB).

EFCVs in reactor instrumentation lines are used to limit the release of fluid from the RCPB in the event of an instrument line break. These EFCVs are not required to close in response to a containment isolation signal and are not postulated to actuate under post-Loss-of-Coolant Accident (LOCA) conditions. Reactor instrumentation line EFCVs at NMP2 are designed not to close inadvertently during normal operation, but are designed to close automatically in the event of a line break downstream of the valve, and have their status indicated in the control room. These instrumentation lines also have a flow-restricting orifice upstream of the EFCV.

Other instrument lines having EFCVs contain pressures far lower than those connected to the RCPB. A failure of an instrument line connected to containment atmosphere or the suppression pool during normal operation would not result in the closure of the associated EFCV, since normal operating containment pressure is not sufficient to actuate the valve. Such EFCVs will only close with a downstream line break coincident with a LOCA, a condition that is beyond the plant design basis. A failure of the instrument line that monitors for leakage between the reactor head flange O-ring seals would not result in closure of the associated EFCV unless there was significant leakage past the inner O-ring. Inner O-ring leakage of a magnitude sufficient to close the EFCV is not expected due to the reactor vessel head-shell closure design. Two concentric metal O-rings (one inner and one outer) are installed in grooves in the vessel head. The O-rings are tightly compressed and confined between the vessel and head flange surfaces. Any potential leakage path that may develop due to inner O-ring degradation or failure would be restricted by the compressed, confined O-ring material and by the closely mated vessel and head flange surfaces. Other instrument lines penetrating primary containment and having EFCVs are connected to closed, non-radiologically contaminated systems, and thus, do not present a credible radiological leakage pathway.

EVALUATION

The NRC approved on February 15, 1999, as Amendment 91 to the Operating License, conversion of NMP2's TS to the improved TS (ITS) standard format. Prior to converting to ITS, the EFCV SR (4.6.3.4) required that "Each reactor instrumentation line excess flow check valve shall be demonstrated OPERABLE..." The Bases referenced a listing of primary containment isolation valves which included both the EFCVs in the instrumentation lines connected to the RCPB and those in other instrument lines. NMPC's practice of testing all of the listed EFCVs was carried forward in the ITS conversion process. NUREG-1434 (for BWR 6s) was used as the template for the conversion, but it does not address EFCVs. In providing a plant specific SR to reflect NMP2 (BWR 5) design and surveillance requirements, NMPC deleted the words "reactor instrumentation line," resulting in the continuation of the application of the SR to all instrument line EFCVs. Although it has been, and will continue to be, NMPC's practice to test all instrument line EFCVs, it is not appropriate, for reasons described above, to include EFCVs other than those in reactor instrumentation lines in the scope of the SR. Therefore, it is proposed that the words "reactor instrumentation line" be reinserted in SR 3.6.1.3.9.

It is proposed that the requirement for testing of EFCVs other than those in reactor instrumentation lines be relocated to the Inservice Testing (IST) Program where it currently exists as a refueling outage frequency. The IST Program, required by 10CFR50.55a, provides requirements for the testing of all American Society of Mechanical Engineers Code Class 1, 2, and 3 valves in accordance with applicable codes, standards, and relief requests, endorsed by the NRC for NMP2. These controls are adequate to ensure the required testing of these EFCVs is performed and do not need to be in the TS to provide adequate protection of the public health and safety. Changes to the relocated requirements in the IST Program will be controlled by the provisions of 10CFR50.55a.

GE Nuclear Energy prepared topical report NEDO-32977-A, "Excess Flow Check Valve Testing Relaxation" for the Boiling Water Reactor Owner's Group to justify extending the testing interval for EFCVs in reactor instrumentation lines. IES Utilities – Duane Arnold Energy Center (DAEC), as the lead plant for the industry, submitted a TS amendment request in April 1999

for relaxed testing of reactor instrumentation line EFCVs using the justifications of NEDO-32977-A. The Commission approved DAEC's amendment in a Safety Evaluation dated December 29, 1999. The Commission also found the topical report acceptable on a generic basis for referencing in relaxation of reactor instrumentation line EFCV surveillance testing, which may be as great as 10 years, in a Safety Evaluation dated March 14, 2000. This Safety Evaluation also approved generic change TSTF-334 to the Improved Standard Technical Specifications NUREG-1433. NMPC's proposed change is consistent with these documents.

The topical report provides detailed information about reactor instrumentation line EFCV surveillance testing at 12 BWR plants. Testing history indicates that there is a low failure rate in EFCV testing. The composite data showed 11 failures in over 12,000 valve years of operation. It also showed the upper limit failure rate to be 2.89E-07/hr for valves manufactured by Dragon.

NMP2 has a total of 87 reactor instrumentation line EFCVs manufactured by Dragon. Consistent with the data presentation in the topical report, 602 surveillance tests have been conducted over a total aggregate time of 1075 valve years. During this time the number of valves that failed to check is 2. Based on NMP2's operating experience to date, the calculated upper limit failure rate for these valves is 6.7E-07/hr. The failure rate demonstrates the high reliability of these valves and that NMP2's experience is comparable to that of the 12 BWR plants upon which the topical report was based.

The Commission found acceptable, in their Safety Evaluation of the topical report, the method for estimating the increase in radiological release frequency associated with extending the surveillance interval to 10 years (nominal) when considering an instrumentation line break concurrent with the failure of a reactor instrumentation line EFCV to check. Applying the NMP2 failure rate and a single instrument line break frequency of 3.5E-05/yr (consistent with the BWR Owners' Group response to NRC Request for Additional Information No. 5 that is incorporated into NEDO-32977-A), the release frequency is calculated to be 2.0E-07/yr per instrument line for a surveillance interval of 24 months, and 1.0E-06/yr per line for a 10 year surveillance interval. The increase in release frequency for the proposed change is 8.0E-07/yr per line, and the increase in the total plant release frequency for a random break of any of the 87 reactor instrumentation lines concurrent with failure of that line's EFCV to close is 7.0E-05/yr. To evaluate the possibility that the EFCV failure rate may change over time, the effect of conservatively increasing the number of observed failures at NMP2 by a factor of 5 (consistent with the BWR Owners' Group response to NRC Request for Additional Information No. 5 that is incorporated into NEDO-32977-A) has been calculated. The resulting upper limit failure rate is 1.79E-06/hr. Applying this failure rate, the NMP2 release frequency is calculated to be 5.5E-07/yr per instrument line for a surveillance interval of 24 months, and 2.7E-06/yr per line for a 10 year surveillance interval. The increase in total plant release frequency (1.9E-04/yr) is considered to be insignificant, and the release frequency values are sufficiently low such that it can be concluded that the change in surveillance test frequency has minimal impact on EFCV reliability, even considering the factor of 5 applied to the observed EFCV failure rate.

The consequences of an unisolable rupture of such an instrumentation line, for which a reactor instrumentation line EFCV is designed to mitigate, has been previously evaluated in NMP2 Updated Safety Analysis Report (USAR) Section 15.6.2. A circumferential rupture of an instrumentation line which is connected to the RCPB is postulated to occur outside primary containment, but inside the reactor building. The evaluation assumed a continuous discharge

of reactor water from an instrumentation line with an installed ¼" orifice for the 2 hour duration of this event. The function of the EFCV is not credited in the analysis; i.e., either the rupture is assumed to occur between the orifice and the EFCV or downstream of an EFCV that fails to check flow. No credit is taken for secondary containment or operation of the Standby Gas Treatment System and an instantaneous, ground level release is assumed. The resulting offsite exposures are substantially below the guidelines of 10CFR100. The consequence assumptions for the accident evaluation do not change as a result of the proposed changes and the previous evaluation results remain acceptable.

The associated Bases for TS 3.6.1.3 will be revised pursuant to the Bases Control Program of TS 5.5.10. The revisions are included to assist the Staff in reviewing the proposed TS changes and are not considered part of this application for license amendment. The Bases will be revised to use the terminology "reactor instrumentation line" EFCVs consistent with the SR, and to delete the discussion on testing those EFCVs in low-pressure instrument lines (i.e., other than those in reactor instrumentation lines). The Bases will also be revised to state what is a "representative sample", the basis for the nominal 10 year interval (5 refueling cycles), and the actions to be taken in the event of an EFCV surveillance test failure. At NMP2, any EFCV failures identified during surveillance testing will be monitored in accordance with the requirements established by the Maintenance Rule (10CFR50.65) Program and appropriate corrective actions will be taken if failures exceed the performance criteria of one functional failure on a 2-year rolling average.

CONCLUSION

The evaluation above demonstrates that the safety significance of EFCVs is small. Based on the historically high reliability of the EFCVs and their low risk significance and radiological consequences should they fail, NMPC has concluded that the proposed TS changes will not adversely affect the health and safety of the public and will not be inimical to the common defense and security.

NO SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS

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. According to 10CFR50.92(c), a proposed amendment to an operating license involves no significant hazards consideration 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 10 CFR 50.91 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>

Excess flow check valves (EFCVs) in instrument lines other than those connected to the reactor coolant pressure boundary (RCPB) are designed to remain open during postulated accident conditions. They are not required to close during an instrument line break assumed during normal plant operation, nor would a failure of one of these instrument lines during normal plant conditions result in the actuation of the associated EFCV. These EFCVs are not credited to isolate in the instrument line break analysis and are not initiators of any evaluated accidents. This proposed change does not change the method by which the valves are tested and the requirement to verify these EFCVs are capable of actuating to their isolation position is retained in another document. Therefore, the relocation of their testing requirements to a document controlled by the requirements of 10CFR50.55a does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The current Surveillance Requirement Frequency requires each reactor instrumentation line EFCV to be tested every 24 months. The reactor instrumentation line EFCVs at Nine Mile Point Unit 2 (NMP2) are designed not to close inadvertently during normal operation, but are designed to close automatically in the event of a line break downstream of the valve, and have their status indicated in the control room. The proposed change allows a reduced number of reactor instrumentation line EFCVs to be tested every 24 months. There are no physical plant modifications associated with the proposed change. Industry operating experience demonstrates a high reliability of these valves. Neither reactor instrumentation line EFCVs nor their failures to isolate can initiate previously evaluated accidents; therefore this proposed change does not involve a significant increase in the probability of any accident previously evaluated.

Instrumentation lines connecting to the RCPB with EFCVs installed also have a flow-restricting orifice upstream of the EFCV. The consequences of an unisolable rupture of such an instrumentation line have been previously evaluated in NMP2 Updated Safety Analysis Report (USAR) Section 15.6.2. The evaluation assumed a continuous discharge of reactor water from an instrumentation line with an installed ¼" orifice for the 2 hour duration of this event. The function of the EFCV is not credited in the analysis. No credit is taken for secondary containment or operation of the Standby Gas Treatment System and an instantaneous, ground level release is assumed. The calculated potential offsite exposures are substantially below the guidelines of 10CFR100. Although not expected to occur, the postulated failure of a reactor instrumentation line EFCV to isolate as a result of reduced testing is bounded by this previous evaluation. Therefore, this proposed change does not involve a significant increase in the consequences of any accident previously evaluated.

<u>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.</u>

The proposed changes relocate the testing requirements for EFCVs in instrument lines other than those connected to the RCPB to a Licensee-controlled document and allow a reduced number of reactor instrumentation line EFCVs to be tested each operating cycle. No other

changes in requirements are being proposed. Industry operating experience demonstrates the high reliability of these valves. The potential failure of a reactor instrumentation line EFCV to isolate as a result of the reduced testing frequency is bounded by the previous evaluation of an instrumentation line rupture in NMP2 USAR Section 15.6.2. The proposed change does not involve a physical alteration of the plant and will not alter the design, function, or operation of any plant structures, systems, or components in a manner that could introduce a new accident precursor or create a new failure mechanism. Furthermore, the change will not introduce any new modes of plant operation or eliminate any actions required to prevent or mitigate accidents. Therefore, a new or different kind of accident will not be created.

<u>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.</u>

There are no design basis accidents for which EFCVs in instrument lines other than those connected to the RCPB are credited for accident mitigation. For instrument lines connected to primary containment atmosphere and the suppression pool, a postulated line break downstream of the EFCV under normal operating conditions would not result in the functioning of these EFCVs because sufficient pressure would not exist to cause their actuation. The conditions under which these valves are designed to actuate are beyond the plant design basis. For the instrument line that monitors for leakage between the reactor head flange O-ring seals, failure of the instrument line downstream of the EFCV would not result in closure of the EFCV unless there was significant leakage past the inner O-ring. Inner O-ring leakage of a magnitude sufficient to close the EFCV is not expected due to the reactor vessel head-shell closure design. Two concentric metal O-rings (one inner and one outer) are installed in grooves in the vessel head. The O-rings are tightly compressed and confined between the vessel and head flange surfaces. Any potential leakage path that may develop due to inner O-ring degradation or failure would be restricted by the compressed, confined O-ring material and by the closely mated vessel and head flange surfaces. For other instrument lines connected to closed, non-radiologically contaminated systems, a credible radiological leakage pathway does not exist. Therefore, relocation of the testing requirements for EFCVs other than those connected to the RCPB to a Licensee-controlled document does not involve a significant reduction in a margin of safety.

The consequences of an unisolable rupture of a reactor instrumentation line have been previously evaluated in NMP2 USAR Section 15.6.2. The only margin of safety applicable to the proposed change is considered to be that implied by this evaluation. Since the EFCV was not assumed to perform its flow limiting function in this evaluation, any potential failure of a reactor instrumentation line EFCV to isolate as a result of less frequent testing is bounded by the previous evaluation and does not involve a significant reduction in a margin of safety.

ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. NPF-69

DOCKET NO. 50-410

"Marked-Up" Copy of Technical Specifications and Bases

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.1.3.6	Perform leakage rate testing for each primary containment purge valve with resilient seals.	184 days AND Once within 92 days after opening the valve
SR 3.6.1.3.7	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.6.1.3.8	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	24 months
SR 3.6.1.3.9	Verify ~~each~~ a representative sample of reactor instrumentation line EFCVs actuates to the isolation position on an actual or simulated instrument line break signal.	24 months
SR 3.6.1.3.10	Remove and test the explosive squib from each shear isolation valve of the TIP System.	24 months on a STAGGERED TEST BASIS
SR 3.6.1.3.11	Verify the leakage rate for the secondary containment bypass leakage paths is within the limits of Table 3.6.1.3-1 when pressurized to ≥ 40 psig.	In accordance with 10 CFR 50 Appendix J Testing Program Plan

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.8 (continued)

Isolation Instrumentation," overlaps this SR to provide complete testing of the safety function. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. In addition, this Surveillance shall be performed in MODE 4 or 5.

SR 3.6.1.3.9

a representative sample of

reactor instrumentation line

This SR requires a demonstration that ~~each~~ EFCV is OPERABLE by verifying that the valve actuates to the isolation position on an actual or simulated instrument line break condition. This SR provides assurance that the instrumentation line EFCVs will perform as designed. ~~Some hydraulic EFCVs are tested by providing an instrument line break signal with reactor pressure above 600 psig. Testing above this pressure range provides a high degree of assurance that these valves will close during an instrument line break while at normal operating pressure. The remaining hydraulic EFCVs are tested with process fluid or demin water at low pressure. The pneumatic EFCVs are tested by providing an instrument line break signal with pressure at approximately 15 psig to 150 psig. These test pressures are selected to simulate the actual operating conditions the EFCVs are expected to experience during instrument line breaks outside containment.~~

reactor

INSERT 1

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. ~~Operating experience has shown that these components usually pass this Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~

INSERT 2

(continued)

INSERT 1

The representative sample consists of an approximately equal number of reactor instrumentation line EFCVs, such that each EFCV is tested at least once every 5 refueling cycles. In addition, the reactor instrumentation line EFCVs in the sample are representative of the various plant configurations, models, sizes, and operating environments. This ensures that any potentially common problem with a specific type or application of reactor instrumentation line EFCV is detected at the earliest possible time.

INSERT 2

The nominal 10-year interval is based on performance testing as discussed in NEDO-32977-A, "Excess Flow Check Valve Testing Relaxation" (Ref. 8). Furthermore, any reactor instrumentation line EFCV failures will be monitored in accordance with the Maintenance Rule Program to ensure overall reliability is maintained. Appropriate corrective actions will be taken if failures exceed the established performance criteria. Operating experience has demonstrated that these components are highly reliable and that failures to isolate are very infrequent. Therefore, testing of a representative sample was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3.12

The analyses in Reference 1 are based on leakage that is less than the specified leakage rate. Leakage through each MSIV must be ≤ 24 scfh when tested at 40 psig. This ensures that MSIV leakage is properly accounted for in determining the overall primary containment leakage rate. The Frequency is required by the 10 CFR 50 Appendix J Testing Program Plan.

MSIV leakage is considered part of L_a.

SR 3.6.1.3.13

Surveillance of hydrostatically tested lines provides assurance that the calculation assumptions of Reference 1 are met. The acceptance criteria for the combined leakage of all hydrostatically tested lines is 1 gpm times the total number of hydrostatically tested PCIVs when tested at ≥ 1.10 P_a (43.73 psig). The combined leakage rates must be demonstrated in accordance with the leakage test Frequency required by the 10 CFR 50 Appendix J Testing Program Plan.

REFERENCES

1. Technical Requirements Manual.
2. USAR, Section 15.6.5.
3. USAR, Section 15.6.4.
4. USAR, Section 15.2.4.
5. 10 CFR 50.36(c)(2)(ii).
6. USAR, Section 6.2.4.3.2.
7. 10 CFR 50, Appendix J Option B.
8. NEDO-32977-A, "Excess Flow Check Valve Testing Relaxation," June 2000.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. NPF-69

DOCKET NO. 50-410

Environmental Considerations

10 CFR 51.22 provides criteria for, and identification of, licensing and regulatory actions eligible for exclusion from performing an environmental assessment. 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.