

August 13, 1996

Mr. B. Ralph Sylvia
Executive Vice President
and Chief Nuclear Officer
Niagara Mohawk Power Corporation
Generation Business Group D-2
300 Erie Boulevard West
Syracuse, NY 13202

SUBJECT: ISSUANCE OF AMENDMENT FOR NINE MILE POINT NUCLEAR STATION, UNIT 2
(TAC NO. M94641)

Dear Mr. Sylvia:

The Commission has issued the enclosed Amendment No. 74 to Facility Operating License No. NPF-69 for the Nine Mile Point Nuclear Station, Unit 2 (NMP-2). The amendment consists of changes to the operating license and Technical Specifications (TSs) in response to your application transmitted by letter dated February 7, 1996, as supplemented July 26, 1996.

The amendment revises the operating license, TSs and associated Bases to implement Option B "Performance-Based Requirements" of Appendix J to 10 CFR Part 50 for Type A, B, and C leakage rate testing.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

/S/

Darl S. Hood, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-410

Enclosures: 1. Amendment No. 74 to NPF-69
2. Safety Evaluation

cc w/encls: See next page

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DATE	08/7/96		08/7/96	08/13/96	08/9/96	08/7/96

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DATED: August 13, 1996

AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-69-NINE MILE POINT
UNIT 2

Docket File

PUBLIC

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 13, 1996

Mr. B. Ralph Sylvia
Executive Vice President
and Chief Nuclear Officer
Niagara Mohawk Power Corporation
Generation Business Group D-2
300 Erie Boulevard West
Syracuse, NY 13202

SUBJECT: ISSUANCE OF AMENDMENT FOR NINE MILE POINT NUCLEAR STATION, UNIT 2
(TAC NO. M94641)

Dear Mr. Sylvia:

The Commission has issued the enclosed Amendment No. ⁷⁴ to Facility Operating License No. NPF-69 for the Nine Mile Point Nuclear Station, Unit 2 (NMP-2). The amendment consists of changes to the operating license and Technical Specifications (TSs) in response to your application transmitted by letter dated February 7, 1996, as supplemented July 26, 1996.

The amendment revises the operating license, TSs and associated Bases to implement Option B "Performance-Based Requirements" of Appendix J to 10 CFR Part 50 for Type A, B, and C leakage rate testing.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Darl S. Hood".

Darl S. Hood, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-410

Enclosures: 1. Amendment No. ⁷⁴ to NPF-69
2. Safety Evaluation

cc w/encls: See next page

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Unit 2

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-410

NINE MILE POINT NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74
License No. NPF-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated February 7, 1996, as supplemented July 26, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-69 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

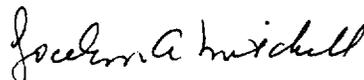
The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 74 are hereby incorporated into this license. Niagara Mohawk Power Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. Also, the license is amended by replacing paragraph 2.D.ii on page 6 of Facility Operating License NPF-69 with the following:

ii) Exemptions to certain requirements of Appendix J to 10 CFR Part 50 are described in Supplements 3, 4, and 5 to the SER. These include (a) (this item left intentionally blank); (b) an exemption from the requirement of Option B of Appendix J, exempting main steam isolation valve measured leakage from the combined leakage rate limit of 0.6 La. (Section 6.2.6 of SSER 5)*; (c) an exemption from Option B of Appendix J, exempting the hydraulic control system for the reactor recirculation flow control valves from Type A and Type C leak testing (Section 6.2.6 of SSER 3); (d) an exemption from Option B of Appendix J, exempting Type C testing on traversing incore probe system shear valves. (Section 6.2.6, SSER 4)

4. This license amendment is effective as of the date of its issuance to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Jocelyn A. Mitchell, Acting Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:

1. Page 6 of License NPF-69
2. Changes to the Technical Specifications

Date of Issuance: August 13, 1996

ATTACHMENT 1 TO LICENSE AMENDMENT

AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-69

DOCKET NO. 50-410

Revise License NPF-69 as follows:

Remove Page
6

Insert Page
6

- i) An exemption from the criticality alarm requirements of 10 CFR Part 70.24 was granted in the Special Nuclear Materials License No. SNM-1895 dated November 27, 1985. This exemption is described in Section 9.1 of Supplement 4 to the SER. This previously granted exemption is continued in this operating license.
- ii) Exemptions to certain requirements of Appendix J to 10 CFR Part 50 are described in Supplements 3, 4, and 5 to the SER. These include (a) (this item left intentionally blank); (b) an exemption from the requirement of Option B of Appendix J, exempting main steam isolation valve measured leakage from the combined leakage rate limit of 0.6 La. (Section 6.2.6 of SSER 5)*; (c) an exemption from Option B of Appendix J, exempting the hydraulic control system for the reactor recirculation flow control valves from Type A and Type C leak testing (Section 6.2.6 of SSER 3); (d) an exemption from Option B of Appendix J, exempting Type C testing on traversing incore probe system shear valves. (Section 6.2.6, SSER 4)
- iii) An exemption to Appendix A to 10 CFR Part 50 exempting the Control Rod Drive (CRD) hydraulic lines to the reactor recirculation pump seal purge equipment from General Design Criterion (GDC) 55. The CRD hydraulic lines to the reactor recirculation pump seal purge equipment use two simple check valves for the isolation outside containment (one inside). (Section 6.2.4, SSER 3)
- iv) A schedular exemption to GDC 2, Appendix A to 10 CFR Part 50, until the first refueling outage, to demonstrate the adequacy of the downcomer design under the plant faulted condition. This exemption permits additional analysis and/or modifications, as necessary, to be completed by the end of the first refueling outage. (Section 6.2.1.7.4, SSER 3)
- v) A schedular exemption to GDC 50, Appendix A to 10 CFR Part 50 to allow Niagara Mohawk Power Corporation until start-up following the "mini-outage," which is to occur within 12 months of commencing power operation (entering Operational Condition 1), to install redundant fuses in circuits that use transformers for redundant penetration protection in accordance with their letter of August 29, 1986 (NMP2L 0860). (Section 8.4.2, SSER 5)

* The parenthetical notation following the discussion of each exemption denotes the section of the Safety Evaluation Report (SER) and/or its supplements wherein the safety evaluation of the exemption is discussed.

ATTACHMENT 2 TO LICENSE AMENDMENT
AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-69
DOCKET NO. 50-410

Revise Appendix A as follows:

<u>Remove Page</u>	<u>Insert Page</u>
3/4 6-1	3/4 6-1
3/4 6-2	3/4 6-2
3/4 6-3	3/4 6-3
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3/4 6-7	3/4 6-7
3/4 6-9	3/4 6-9
3/4 6-10	3/4 6-10
3/4 6-45	3/4 6-45*
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B3/4 6-1	B3/4 6-1
B3/4 6-2	B3/4 6-2
6-17a	6-17a
---	6-17b**

* Overleaf page (for TS with two-side copies--text not changed)

** New page

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

PRIMARY CONTAINMENT INTEGRITY

LIMITING CONDITIONS FOR OPERATION

3.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2*, and 3.

ACTION:

Without PRIMARY CONTAINMENT INTEGRITY, restore PRIMARY CONTAINMENT INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 PRIMARY CONTAINMENT INTEGRITY shall be demonstrated:

- a. After each closing of each penetration subject to Type B testing, except the primary containment air locks, if opened following Type A or B test, by leak rate testing the seals in accordance with the 10 CFR 50 Appendix J Testing Program Plan.
- b. At least once per 31 days by verifying that all primary containment penetrations** not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position, except as provided in Specification 3.6.3.
- c. By verifying each primary containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- d. By verifying the suppression chamber is in compliance with the requirements of Specification 3.6.2.1.

* See Special Test Exception 3.10.1

** Except valves, blind flanges, and deactivated automatic valves which are located inside the containment, and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed when the primary containment has not been de-inerted since the last verification or more often than once every 92 days.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT LEAKAGE

LIMITING CONDITIONS FOR OPERATION

3.6.1.2 Primary containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than L_a , 1.1% by weight of the containment air every 24 hours at Pa, 39.75 psig.
- b. A combined leakage rate on a minimum pathway basis of less than 0.60 L_a for all penetrations and all Primary Containment Isolation Valves, except for main steam line isolation valves* (and Primary Containment Isolation Valves which are hydrostatically leak tested), subject to Type B and C tests when pressurized to Pa, 39.75 psig.
- c. A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at 1.10 Pa, 43.73 psig.
- d. Less than or equal to that specified in Table 3.6.1.2-1 through valves in lines that are potential bypass leakage pathways when tested at 40.0 psig.

APPLICABILITY: When PRIMARY CONTAINMENT INTEGRITY is required per Specification 3.6.1.1.

ACTION:

With:

- a. The measured overall integrated primary containment leakage rate equaling or exceeding 1.0 L_a or

* Exemption to Appendix J of 10 CFR 50

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT LEAKAGE

LIMITING CONDITIONS FOR OPERATION

3.6.1.2 (Continued)

ACTION:

- b. The measured combined leakage rate on a minimum pathway basis for all penetrations and all Primary Containment Isolation Valves, except for main steam line isolation valves* and valves which are hydrostatically leak tested, subject to Type B and C tests equaling or exceeding 0.60 La, or
- c. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 1 gpm times the total number of such valves, or
- d. The measured leakage rate through any valve that is part of a potential bypass leakage pathway exceeding the limit specified in Table 3.6.1.2-1

Restore:

- a. The overall integrated leakage rate to less than 1.0 La, and
- b. The combined leakage rate on a minimum pathway basis for all penetrations and all Primary Containment Isolation Valves, except for main steamline isolation valves* and valves which are hydrostatically leak tested, subject to Type B and C tests to less than 0.60 La, and
- c. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves, and
- d. The leakage rate to less than or equal to that specified in Table 3.6.1.2-1 for any valve that is part of a potential bypass leakage path.

* Exemption to Appendix J to 10 CFR 50

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT LEAKAGE

SURVEILLANCE REQUIREMENTS

4.6.1.2.1 The primary containment leakage rates shall be demonstrated at test schedules and in conformance with the criteria specified in the 10 CFR 50 Appendix J Testing Program Plan as described in Section 6.8.4.f.

4.6.1.2.2 Main steam line isolation valves and the remainder of the valves specified in Table 3.6.1.2-1 shall be leak tested in accordance with the 10 CFR 50 Appendix J Testing Program Plan as described in Section 6.8.4.f at a test pressure of at least 40 psig with air or nitrogen to demonstrate that each valve satisfies the leakage limits specified in Table 3.6.1.2-1.

4.6.1.2.3 Containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested in accordance with the 10 CFR 50 Appendix J Testing Program Plan as described in Section 6.8.4.f at a test pressure of at least 1.10 Pa, 43.73 psig.

4.6.1.2.4 The provisions of Specification 4.0.2 are not applicable to Surveillance Requirements 4.6.1.2.1, 4.6.1.2.2, and 4.6.1.2.3.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT LEAKAGE

SURVEILLANCE REQUIREMENTS

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TABLE 3.6.1.2-1

ALLOWABLE LEAK RATES THROUGH VALVES IN

POTENTIAL BYPASS LEAKAGE PATHS

<u>LINE DESCRIPTION</u>	<u>VALVE MARK NO</u>	<u>TERMINATION REGION</u>	<u>PER VALVE LEAK RATE, SCFH</u>
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 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	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

ALLOWABLE LEAK RATES THROUGH VALVES IN

POTENTIAL BYPASS LEAKAGE PATHS

<u>LINE DESCRIPTION</u>	<u>VALVE MARK NO</u>	<u>TERMINATION REGION</u>	<u>PER VALVE LEAK RATE, SCFH</u>
Inst. Air to ADS Valve Accumulator	IAS*SOV164 IAS*V448	Yard Area	0.9375
Inst. Air to ADS Valve Accumulator	IAS*SOV165 IAS*V449	Yard Area	0.9375
N ₂ Purge to TIP Index Mechanism	GSN*SOV166 GSN*V170	Yard Area	*
Inst. Air to SRV Accumulator	IAS*SOV166 IAS*SOV184	Yard Area	*
Inst. Air to Drywell	IAS*SOV167 IAS*SOV185	Yard Area	*
Inst. Air to Drywell	IAS*SOV168 IAS*SOV180	Yard Area	*
Inst. Air to CPS Valve in Suppression Chamber	CPS*SOV132 CPS*V50	Yard Area	*
Inst. Air to CPS Valve in Suppression Chamber	CPS*SOV133 CPS*V51	Yard Area	*

* The combined leakage of these six penetrations shall not exceed 3.6 SCFH. The leakage through each penetration shall be that of the valve with the highest rate in that penetration.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT AIR LOCKS

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each primary containment air lock shall be demonstrated OPERABLE:

- a. By verifying seal leakage rate less than or equal to 5 scf per hour when the gap between the door seals is pressurized to greater than or equal to 10 psig:
 1. Within 7 days following each closing, except when the air lock is being used for multiple entries, then at least once per 7 days; and
 2. Prior to establishing PRIMARY CONTAINMENT INTEGRITY when the air lock has been used.
- b. By conducting an overall air lock leakage test at Pa, 39.75 psig and by verifying that the overall air lock leakage rate is within its limit at a test schedule in accordance with the 10 CFR 50 Appendix J Testing Program Plan.
- c. By verifying that only one door in each air lock can be opened at a time prior to performing SR 4.6.1.3.a. †
- d. The provisions of Specification 4.0.2 are not applicable, and the surveillance interval extensions are in accordance with the 10 CFR 50 Appendix J Testing Program Plan.

† Except that the inner door need not be opened to verify interlock OPERABILITY when the primary containment is inerted, provided that the inner door interlock is tested within 8 hours after the primary containment has been de-inerted.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

PRIMARY CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITIONS FOR OPERATION

3.6.1.4 The structural integrity of the primary containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.4.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With the structural integrity of the primary containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.4.1 The structural integrity of the exposed accessible interior and exterior surfaces of the primary containment, including the liner plate and drywell to wetwell bypass paths, shall be determined by a visual inspection of those surfaces. This inspection shall be performed to verify no apparent changes in appearance or other abnormal degradation at an inspection schedule in accordance with the 10 CFR 50 Appendix J Testing Program Plan.

4.6.1.4.2 Any abnormal degradation of the containment structure detected during the above required inspections shall be reported to the Commission pursuant to Specification 6.9.2 within 30 days. This report shall include a description of the condition of the vessel and the annulus fill concrete, the inspection procedure, the tolerances on concrete cracking, and the corrective actions taken.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT

STANDBY GAS TREATMENT SYSTEM

SURVEILLANCE REQUIREMENTS

4.6.5.3 (Continued)

d. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 5.5 inches Water Gauge while operating the filter train at a flow rate of 4000 cfm \pm 10%.
2. Verifying that the filter train starts and isolation valves open on each of the following test signals:
 - a. Manual initiation from the control room, and
 - b. Simulated automatic initiation signal.
3. Verifying that the decay heat removal air inlet valves are closed and can be manually opened.
4. Verifying that the heaters dissipate 20.0 \pm 2.0 kW when tested in accordance with ANSI N510-1980.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter bank satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 while operating the system at a flow rate of 4000 cfm \pm 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 4000 cfm \pm 10%.

3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL

DRYWELL AND SUPPRESSION CHAMBER HYDROGEN RECOMBINER SYSTEMS

LIMITING CONDITIONS FOR OPERATION

3.6.6.1 Two independent drywell and suppression chamber hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With one drywell and/or suppression chamber hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each drywell and suppression chamber hydrogen recombiner system shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater coil outlet gas temperature increases to greater than or equal to 1150°F within 90 minutes. Maintain 1150°F or more for at least 4 hours.
- b. At least once per 18 months by:
 - 1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.
 - 2. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test within 30 minutes following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 1 million ohms.
- c. By measuring the system leakage rate:
 - 1. As a part of the overall integrated leakage rate test required by Specification 3.6.1.2, or
 - 2. By measuring the leakage rate of the system outside of the containment isolation valves at Pa, 39.75 psig, on the schedule required by Specification 4.6.1.2.1, and including the measured leakage as a part of the leakage determined in accordance with Specification 4.6.1.2.1.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 PRIMARY CONTAINMENT INTEGRITY

PRIMARY CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the control room and site boundary radiation doses to within the limits of General Design Criterion (GDC) 19 and 10 CFR 100 during accident conditions.

3/4.6.1.2 PRIMARY CONTAINMENT LEAKAGE

The limitations on primary containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at a pressure of 39.75 psig, Pa. Updated analysis results in a maximum expected pressure of less than 39.75 psig. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to 0.75 La during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

Operating experience with the main steam line isolation valves has indicated that degradation has occasionally occurred in the leak tightness of the valves; therefore, the special requirement for testing these valves.

The surveillance testing for measuring leakage rates is consistent with the requirements of Option B of Appendix J of 10 CFR 50 with the exception of an exemption granted for main steam isolation valve testing. Leak testing of valves in potential bypass leakage pathways is performed at a test pressure of 40.00 psig rather than Pa, 39.75 psig, for consistency with the accident analysis.

The leakage rates specified for the main steam line isolation valves, the main steam drain line isolation valves, and the postaccident sampling system gas sample and return line block valves are used to quantify the maximum amount of primary containment atmosphere that could bypass secondary containment and leak directly to the environment after a design-basis loss-of-coolant accident. These data are used to determine the radiological consequences of this accident and ensure that the resultant doses are within the limits of GDC 19 and 10 CFR 100.

3/4.6.1.3 PRIMARY CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the primary containment air locks are required to meet the restrictions on PRIMARY CONTAINMENT INTEGRITY and the primary containment leakage rate given in Specifications 3.6.1.1 and 3.6.1.2. The specification makes allowances for the fact that there may be long periods of time when the air locks will be in a closed and secured position during reactor operation. Only one closed door in each air lock is required to maintain the integrity of the containment.

CONTAINMENT SYSTEMS

BASES

PRIMARY CONTAINMENT

3/4.6.1.4 PRIMARY CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the unit. Structural integrity is required to ensure that the containment will withstand the design pressure of 45 psig in the event of a loss-of-coolant accident (LOCA). A visual inspection at a frequency as required by the 10 CFR 50 Appendix J Testing Program Plan is sufficient to demonstrate this capability.

3/4.6.1.5 DRYWELL AND SUPPRESSION CHAMBER INTERNAL PRESSURE

The limitations on drywell and suppression chamber internal pressure ensure that the containment peak pressure of less than 39.75 psig does not exceed the design pressure of 45.0 psig during LOCA conditions or that the external pressure differential does not exceed the design maximum external pressure differential of 4.7 psi. The limit of 14.2 to 15.45 psia for initial positive containment pressure will limit the total pressure to 39.75 psig, which is less than the design pressure and is consistent with the safety analysis.

3/4.6.1.6 DRYWELL AVERAGE AIR TEMPERATURE

The limitation on drywell average air temperature ensures that the containment peak air temperature does not exceed the design temperature of 340°F during steam line break conditions and is consistent with the safety analysis.

In addition, the maximum drywell average air temperature is also the limiting initial condition used to determine the maximum negative differential pressure acting on the drywell and suppression chamber following inadvertent actuation of the containment sprays.

3/4.6.1.7 PRIMARY CONTAINMENT PURGE SYSTEM

The 14-inch drywell and 12-inch suppression chamber supply and exhaust valves are limited to 135 hours of use per 365 days during purge or vent operations in OPERATIONAL CONDITIONS 1, 2, and 3 to meet the requirements of Branch Technical Position CSB 6-4 and Generic Letter 83-02 for valves greater than 8 inches in diameter. The requirement to limit the opening of 2CPS*AOV105, 2CPS*AOV107, 2CPS*AOV109, and 2CPS*AOV110 to 70 degrees, and 2CPS*AOV111 to 60 degrees ensures these valves will close during a LOCA or steam line break accident, and therefore, the site boundary dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during purging or venting operations.

PROCEDURE AND PROGRAMS

PROGRAMS

6.8.4 (Continued)

e. Diesel Fuel Oil Testing Program

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

1. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:
 - a. an API gravity or an absolute specific gravity within limits,
 - b. a flash point and kinematic viscosity within limits, and
 - c. a clear and bright appearance;
2. Other properties for ASTM fuel oil are within limits within 31 days following addition to storage tanks; and
3. Total particulate concentration of the fuel oil is < 10 mg/l when tested every 31 days in accordance with ASTM D-2276, Method A.

f. 10 CFR 50 Appendix J Testing Program Plan

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B with the exemptions stated in Section 2.D(ii) of the Operating License. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, entitled, "Performance-Based Containment Leak-Test Program," dated September 1995 with the following exceptions:

1. Main steam isolation valves' measured leakage is excluded from the combined leakage rate of 0.6 La, and as-found testing is not required to be performed on the main steam isolation valves.
2. Primary containment airlocks' door seals are tested prior to re-establishing containment integrity when something has been done that would bring into question the validity of the previous airlock door seal test.

The peak calculated containment internal pressure (Pa) for the design basis loss of coolant accident is 39.75 psig.

The maximum allowable primary containment leakage rate (La) at Pa shall be 1.1% of primary containment air weight per day.

PROCEDURE AND PROGRAMS

PROGRAMS

6.8.4.f (Continued)

Leakage Rate acceptance criteria are:

1. Primary Containment leakage rate testing acceptance criterion is less than 1.0 La. The combined leakage rate for Type B and C tests on a minimum pathway basis, except for main steam line isolation valves* and Primary Containment isolation valves which are hydrostatically tested, is less than 0.6 La.

During the first unit startup following testing in accordance with this program, the as-left leakage rate acceptance criteria are less than 0.6 La for the Type B and C tests on a maximum pathway basis, except for main steam line isolation valves* and Primary Containment isolation valves which are hydrostatically tested, and less than or equal to 0.75 La for Type A tests;

2. Air lock testing acceptance criteria are:
 - a. Overall air lock leakage rate is less than or equal to 0.05 La when tested at greater than or equal to Pa,
 - b. For each door, leakage rate is less than or equal to 5 scfh when the gap between the door seals is pressurized to greater than or equal to 10 psig.
3. Hydrostatic testing acceptance criterion is a combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate primary containment, when tested at 1.10 Pa, 43.73 psig.

The provisions of SR 4.0.2 do not apply to the test frequencies specified in the 10 CFR 50 Appendix J Testing Program Plan.

The provisions of SR 4.0.3 are applicable to the 10 CFR 50 Appendix J Testing Program Plan.

* Exemption to Appendix J to 10 CFR 50



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-69

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT 2

DOCKET NO. 50-410

1.0 INTRODUCTION

On September 12, 1995, the U.S. Nuclear Regulatory Commission (NRC) approved a revision to 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," that was subsequently published in the Federal Register September 26, 1995, and became effective October 26, 1995. By this revision, the NRC added Option B, "Performance-Based Requirements," to allow licensees to voluntarily replace the prescriptive testing requirements of 10 CFR Part 50, Appendix J, with testing requirements that are based upon both overall leakage rate performance and the performance of individual components.

By application dated February 7, 1996, as supplemented by letter dated July 26, 1996, Niagara Mohawk Power Corporation (the licensee) requested changes to Operating License paragraph 2.D.ii) and the Technical Specifications (TSs) for Nine Mile Point Nuclear Station, Unit 2, that would permit implementation of 10 CFR Part 50, Appendix J, Option B. The licensee has established a "Containment Leakage Rate Testing Program" and proposes to add this program to the TS. The program references Regulatory Guide (RG) 1.163, "Performance-Based Containment Leakage Test Program," dated September 1995, which provides specific guidance for leakage-rate test methods, procedures, and analyses acceptable to the NRC for complying with the requirements and criteria in Option B.

The licensee's supplemental submittal of July 26, 1996, clarified and provided additional information in support of the initial application for amendment. It does not affect the Commission's finding of no significant hazards consideration that was published in the Federal Register (61 FR 20849, May 8, 1996).

2.0 BACKGROUND

Compliance with 10 CFR Part 50, Appendix J, provides assurance that the primary containment, including those systems and components that penetrate the primary containment, do not exceed the allowable leakage rate specified in the TS and Bases. A maximum allowable leakage rate (La) is determined so that the leakage assumed in the safety analyses is not exceeded. Appendix J classifies as "Type A" those tests that are performed to measure the containment system overall integrated leakage rate; "Type B" refers to pneumatic tests to detect

and measure local leakage rates across pressure retaining, leakage-limiting boundaries; and "Type C" refers to pneumatic tests to measure containment isolation valve leakage rates. Further definition of terms used herein may be found in Appendix J.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) that discussed a planned initiative to begin eliminating requirements that are marginal to safety and that impose a significant regulatory burden. Appendix J of 10 CFR Part 50 was considered for this initiative and the NRC staff undertook a study of possible changes to this regulation. The study examined the previous performance history of domestic containments and examined the effect on risk of a revision to the requirements of Appendix J. The results of this study are reported in NUREG-1493, "Performance-Based Containment Leak-Test Program."

From the results of this study, the NRC staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved this revision to 10 CFR Part 50, Appendix J, and it was subsequently published in the Federal Register September 26, 1995 (60 FR 49495), and became effective October 26, 1995. The revision added Option B "Performance-Based Requirements," to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements that are based upon both overall and individual component leakage rate performance.

RG 1.163 was developed as a method acceptable to the NRC staff for implementing Option B. It states that the Nuclear Energy Institute (NEI) guidance document NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B with four exceptions described therein.

Option B requires that the RG or other implementation documents used by a licensee to develop a performance-based leakage-rate testing program must be included, by general reference, in the plant TSs. In its application for amendment, the licensee references RG 1.163 in the proposed TS for Nine Mile Point Nuclear Station, Unit 2.

RG 1.163 specifies a decrease in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests. Type B tests may also be extended to a maximum interval of 10 years based upon completion of two consecutive successful tests. Type C tests may be extended to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed TS to implement Option B. After some discussion, the NRC staff and NEI agreed on final TS that were attached to a letter from C. Grimes (NRC) to D. Modeen (NEI) dated November 2, 1995. These TS are to serve as a model for licensees when preparing plant-specific TS for license amendment requests to implement Option B.

To determine the performance of each component, a licensee must establish factors that are indicative of or affect performance, such as an administrative leakage limit. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not TS requirements. Failure to meet an administrative limit requires a licensee to return to the minimum value of the test interval.

Option B requires that the licensee maintain records to show that the criteria for Type A, B, and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection.

3.0 EVALUATION

In its application dated February 7, 1996, as supplemented July 26, 1996, the licensee proposed to establish a "10 CFR Part 50 Appendix J Testing Program Plan" and to add this program to the TS Administrative Controls requirements by new TS Section 6.8.4f. The program references RG 1.163, which specifies a method acceptable to the NRC for complying with Option B. This change also requires associated changes to surveillance requirement (SR) 4.6.1.1.a, "Primary Containment Integrity;" Limiting Condition for Operation (LCO) 3.6.1.2 and SR 4.6.1.2, "Primary Containment Leakage" and referenced TS Table 3.6.1.2-1, "Allowable Leak Rates through Valves in Potential Bypass Leakage Paths;" SR 4.6.1.3, "Primary Containment Airlocks;" SR 4.6.1.4.1, "Primary Containment Structural Integrity;" and SR 4.6.6.1.c.2, "Drywell and Suppression Chamber Hydrogen Recombiner Systems." Changes to corresponding TS Bases were also proposed.

In addition to proposing changes to the TS, the licensee proposed modifications to Paragraph 2.D.ii) of the Operating License which addresses exemptions to Appendix J. The licensee finds that all but one of the exemptions to Appendix J currently authorized by this paragraph will continue to be needed under Option B and proposed that the specified exemptions be retained with minor changes. The licensee's proposed changes are of an editorial nature to make these existing exemptions consistent with Option B (i.e., the changes delete references to sections of Option A and substitute the appropriate reference to Option B). The wording and meaning otherwise remain identical. The NRC staff agrees that retaining these exemptions is appropriate and consistent with the provisions of Option B which provide that "Specific exemptions to Option A...that have been formally approved by the AEC or NRC, according to 10 CFR 50.12, are still applicable to Option B...if necessary, unless specifically revoked by the NRC." Therefore, the proposed changes to Paragraph 2.D.ii) regarding prior exemptions to be retained under Option B are acceptable.

The licensee proposes to delete Paragraph 2.D.ii)(a) of the Operating License which acknowledges "an exemption from the requirement of Paragraph II.D.2(b)(ii) of Appendix J, exempting overall containment air lock leakage testing unless maintenance has been performed on the air lock (Section 6.2.6

of SSER 5)." The licensee concludes that this prior exemption will no longer be needed once Option B is implemented because, unlike Option A, Option B does not include a requirement that air locks opened during periods when containment integrity was not required by the plant's TS be tested at the end of such periods. The NRC staff agrees that this exemption is not needed under Option B and, therefore, finds the proposed deletion acceptable.

Under Option B, a licensee may choose the performance-based option for performing (1) Type A tests, (2) Type B and C tests, or (3) Type A, B, and C tests. For Unit 2, the licensee has elected to perform Type A, B, and C testing on a performance basis.

The NRC staff finds the TS changes proposed by the licensee to be in compliance with the requirements of Option B and consistent with the guidance of RG 1.163 and the model TS of November 2, 1995, with the exceptions discussed below.

The licensee has proposed an exception to RG 1.163 which states that leakage measured from a main steam isolation valve (MSIV) is excluded from the combined leakage rate of 0.6 La. (This also represents an exception to NEI 94-01 inasmuch as treatment of MSIV leakage apart from La differs from the guidance in NEI 94-01). The staff finds this exception acceptable because it is consistent with an existing Appendix J exemption authorized by Unit 2 Operating License Paragraph 2.D.ii(b) that allows MSIV leakage to be treated separately from La in dose analyses for the design basis accident. In addition, the licensee proposed an exception to RG 1.163 that would permit not performing as-found testing of the MSIVs. The NRC staff finds this acceptable since the test interval of the MSIVs will not be performance based and the MSIV leakage is not included in La.

NEI 94-01 states that door seals must be tested prior to re-establishing containment integrity. The licensee proposes the following exception to this guidance:

Primary containment airlocks' door seals are tested prior to re-establishing containment integrity when something has been done that would bring into question the validity of the previous door seal test.

The staff notes that SR 4.6.1.3.a.2 requires that a seal test must be performed when an air lock has been used. The exception would permit not testing the air lock seals when the reactor had been in a condition where containment integrity had not been required but the air lock had not been opened. The staff finds this change to be acceptable.

Apart from TS changes proposed under Appendix J, the licensee also proposed to extend the testing interval of the air lock interlock specified in SR 4.6.1.3.c from 6 months to 30 months. The licensee finds that this test is more convenient when performed before the overall air lock leakage test. NEI 94-01 specifies that the overall leakage rate test be performed at least every 30 months. To support this change, the licensee reviewed air lock interlock operating experience for approximately 10 years at Nine Mile Point, Unit 2 and

found that unsatisfactory results were obtained in only two tests. Both of these tests occurred after restoration of interlocks that were defeated, as allowed by TS, to facilitate entry into primary containment during a plant outage. In each case, the interlocks were adjusted and the tests were successful. The NRC staff finds these test results to be consistent with industry-wide results. Based on favorable performance history, the staff finds the licensee's proposed extension of the air lock interlock test interval to be acceptable.

Based upon compliance with the requirements of Option B, the guidance of RG 1.163, and the model TS of November 2, 1995, and in accordance with previous exemptions granted by the Commission, the NRC staff finds the proposed changes to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (61 FR 20849). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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