Niagara Mohawk

John H. Mueller
Senior Vice President and
Chief Nuclear Officer

Phone: 315.349.7907
Fax: 315.349.1321
e-mail: muellerj@nimo.com

September 26, 2000
NMP1L 1541

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

RE: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Gentlemen:

Niagara Mohawk Power Corporation (NMPC) hereby transmits an Application for Amendment to Nine Mile Point Unit 1 (NMP1) Operating License DPR-63. Also enclosed are the proposed changes to the Technical Specifications (TSs) 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 involve no significant hazards consideration pursuant to 10CFR50.92 are included as Attachment B. Attachment C provides a "marked-up" copy of the affected TS pages. NMPC's determination that the proposed changes meet the criteria for categorical exclusion from performing an environmental assessment is included as Attachment D.

Proposed changes to TS Sections 3.3.0, "Primary Containment," 3.3.2, "Pressure Suppression System Pressure and Suppression Chamber Water Temperature and Level," 3.3.3, "Leakage Rate," 3.3.4, "Primary Containment Isolation Valves," 3.3.5, "Access Control," and 3.3.7, "Containment Spray System," will allow performance of reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing when the reactor coolant system temperature is above 215°F without having to maintain primary containment integrity. For the current reactor vessel fluence, hydrostatic or leakage tests are required to be performed with minimum reactor coolant system temperatures greater than 215°F. Scram time and excess flow check valve testing are performed under hydrostatic or leakage test conditions. With the reactor coolant system temperature above 215°F, the current TSs require that primary containment integrity be maintained. Establishing primary containment integrity requires the drywell and suppression chamber to be closed, including installation of the drywell head. Installation of the drywell head and carousel (flashing type insulation) complicates access to the reactor vessel head area for required reactor vessel hydrostatic or leakage test VT-2 visual examinations due to the limited accessibility and potential for heat stress. In addition, due to safety concerns related to egress, access to the drywell is normally limited to only the VT-2 inspectors during the period that primary containment integrity is being maintained for hydrostatic or leakage testing. Continuous unobstructed access to the drywell is desired during the period when hydrostatic or leakage tests are being conducted to prevent the disruption of other required outage-related activities.

To support the revision of the primary containment integrity requirements, changes are also proposed to TS Sections 3.2.4 and 4.2.4, "Reactor Coolant Activity," which establish a reactor coolant activity limit and an associated surveillance requirement. These new requirements will be applicable when the reactor coolant system temperature is above 215°F, the reactor is not critical, and primary containment integrity is not being maintained. The addition of these new requirements provides assurance that the

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consequences of a large primary system break during a reactor vessel hydrostatic or leakage test or an instrument line break during excess flow check valve testing remain conservatively bounded by the consequences of the previously analyzed main steam line break outside containment accident. A summary of the results of the associated radiological analysis and clarification of the surveillance requirement have been included in the Bases for TS Sections 3.2.4 and 4.2.4.

In addition, changes are proposed for TS Sections 3.4.0, "Reactor Building," 3.4.1, "Leakage Rate," 3.4.2, "Reactor Building Integrity – Isolation Valves," 3.4.3, "Access Control," and 3.4.4, "Emergency Ventilation System," to require reactor building integrity to be maintained when the reactor coolant system temperature is above 215°F. A change to TS Section 3.4.5, "Control Room Air Treatment System," was also necessary because the proposed changes to the reactor building integrity requirements are not applicable to the control room air treatment system. The proposed changes to the reactor building integrity requirements provide assurance that the reactor building will be available to function as secondary containment when the primary containment is in service and as primary containment when the reactor coolant system temperature is above 215°F and the primary containment is open or not required. The Bases for TS Sections 3.4.3 and 4.4.3 have been revised to reflect the change to the reactor building integrity requirements.

A system leakage test of the NMP1 reactor vessel is scheduled to be performed during the Spring 2001 refueling outage consistent with the requirements of 10CFR50, Appendix G, and Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. NMPC, therefore, requests approval of this license amendment by February 28, 2001, with a period of 30 days allowed for implementation.

Pursuant to 10CFR50.91(b)(1), NMPC has provided a copy of this license amendment application and the associated analyses regarding no significant hazard considerations to the appropriate state representative.

Very truly yours,

John H. Mueller
Senior Vice President and
Chief Nuclear Officer

JHM/CDM/kap
Attachments

xc: Mr. H. J. Miller, NRC Regional Administrator, Region 1
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
Mr. John P. Spath
NYSERDA
286 Washington Avenue Ext.
Albany, NY 12203-6399
Records Management

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Niagara Mohawk Power Corporation	)	**Docket No. 50-220**
	)	
Nine Mile Point Unit 1	)	

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. DPR-63, hereby requests an amendment to the Technical Specifications (TSs) set forth in Appendix A to the License. The proposed changes as set forth in Attachment A to this application revise TS Sections 3.3.0, "Primary Containment," 3.3.2, "Pressure Suppression System Pressure and Suppression Chamber Water Temperature and Level," 3.3.3, "Leakage Rate," 3.3.4, "Primary Containment Isolation Valves," 3.3.5, "Access Control," 3.3.7, "Containment Spray System," 3.2.4 and 4.2.4, "Reactor Coolant Activity," 3.4.0, "Reactor Building," 3.4.1, "Leakage Rate," 3.4.2, "Reactor Building Integrity – Isolation Valves," 3.4.3, "Access Control," and 3.4.4, "Emergency Ventilation System," and 3.4.5, "Control Room Air Treatment System." The proposed changes have been reviewed in accordance with Section 6.5, "Review and Audit," of the TSs.

The proposed changes to TS Sections 3.3.0, 3.3.2, 3.3.3, 3.3.4, 3.3.5, and 3.3.7 will allow performance of reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing when the reactor coolant system temperature is above 215°F without having to maintain primary containment integrity. For the current reactor vessel fluence, hydrostatic or leakage tests are required to be performed with minimum reactor coolant system temperatures greater than 215°F. Scram time and excess flow check valve testing are performed under hydrostatic or leakage test conditions.

To support the revision of the primary containment integrity requirements, changes are also proposed to TS Sections 3.2.4 and 4.2.4 which establish a reactor coolant activity limit and an associated surveillance requirement. These new requirements will be applicable when the reactor coolant system temperature is above 215°F, the reactor is not critical, and primary containment integrity is not being maintained. The Bases for TS Sections 3.2.4 and 4.2.4 have been updated to reflect the new requirements.

In addition, changes are proposed for TS Sections 3.4.0, 3.4.1, 3.4.2, 3.4.3, and 3.4.4 to require reactor building integrity to be maintained when the reactor coolant system temperature is above 215°F. A change to TS Section 3.4.5 was also necessary in order to maintain the current reactor building integrity requirements for the control room air treatment system. The Bases for TS Sections 3.4.3 and 4.4.3 have been revised to reflect the change to the reactor building integrity requirements.

The proposed changes will not authorize any change in the types 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 considerations pursuant to 10CFR50.92 are included as Attachment B.

WHEREFORE, Applicant respectfully requests that Appendix A to Facility Operating License No. DPR-63 be amended in the form attached hereto as Attachment A. It is further requested that the NRC staff issue the revised Bases concurrently with the TS Amendment.

NIAGARA MOHAWK POWER CORPORATION

By _____
John H. Mueller
Senior Vice President and
Chief Nuclear Officer

Subscribed and Sworn to before me
on this 26th day of Sept. 2000.

_____
NOTARY PUBLIC

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

ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Proposed Changes to the Current Technical Specifications (TSs)

Replace existing TS pages 99, 123, 127, 131, 143, 151, 159, 164, 165, 168, 170, 171, 174, and 178 and Bases pages 100 and 172 with the attached corresponding revised pages. The revised replacement pages have been retyped in their entirety, incorporating the changes, and include marginal markings (revision bars) to indicate the changes to the text.

LIMITING CONDITION FOR OPERATION

3.2.4 REACTOR COOLANT ACTIVITY

Applicability:

Applies to the limits on reactor coolant activity at all operating conditions.

Objective:

To assure that in the event of a reactor coolant system line break outside the drywell permissible doses are not exceeded.

Specification:

a. The reactor coolant system radioactivity concentration in water shall not exceed 9.47 microcuries of total iodine per gram of water.

b. If Specification 3.2.4 a, above, cannot be met after a routine surveillance check, the reactor shall be placed in the cold shutdown condition within ten hours.

c. The steady state radioactive concentration in the reactor coolant shall not exceed 1.5 microcuries of total iodine per gram of water when the reactor coolant temperature is >215°F, the reactor is not critical, and primary containment integrity has not been established.

SURVEILLANCE REQUIREMENT

4.2.4 REACTOR COOLANT ACTIVITY

Applicability:

Applies to the periodic testing requirements of the reactor coolant activity.

Objective:

To assure that limits on coolant activity are not exceeded.

Specification:

a. Samples shall be taken at least every 96 hours and analyzed for gross gamma activity.

b. Isotopic analyses of samples shall be made at least once per month.

c. A sample of reactor coolant shall be taken and analyzed for radioactive iodines of I-131 through I-135 within 24 hours prior to raising the reactor coolant temperature >215°F, with the reactor not critical, and with primary containment integrity not established.

BASES FOR 3.2.4 AND 4.2.4 REACTOR COOLANT ACTIVITY

The primary coolant radioactivity concentration limit of 25 μCi total iodine per gram of water was calculated based on a steamline break accident which is isolated in 10.5 seconds. For this accident analysis, all the iodine in the mass of coolant released in this time period is assumed to be released to the atmosphere at the top of the turbine building (30 meters). By limiting the thyroid dose at the site boundary to a maximum of 30 Rem, the iodine concentration in the primary coolant is back-calculated assuming fumigation meteorology, Pasquill Type F at 1m/sec. The iodine concentration in the primary coolant resulting from this analysis is 25 μCi/gm.

A radioactivity concentration limit of 25 μCi/g total iodine could only be reached if the gaseous effluents were near the limit based on the assumed effluent isotopic content (Table A-12 of the FSAR) and the fact that the primary coolant cleanup systems were inoperative. When the cleanup system is operating, it is expected that the primary coolant radioactivity would be about 12 μCi/g total iodine. The concentrations expected during operations with a gaseous effluent of about 0.1 μCi/sec would be about 1.5 μCi/g total iodine.

The reactor water sample will be used to assure that the limit of Specification 3.2.4 is not exceeded. The total radioactive iodine activity would not be expected to change rapidly over a period of 96 hours. In addition, the trend of the stack offgas release rate, which is continuously monitored, is a good indicator of the trend of the iodine activity in the reactor coolant.

Since the concentration of radioactivity in the reactor coolant is not continuously measured, coolant sampling would be ineffective as a means to rapidly detect gross fuel element failures. However, as discussed in the bases for Specification 3.6.2, some capability to detect gross fuel element failures is inherent in the radiation monitors in the offgas system and on the main steam lines.

A more restrictive reactor coolant total iodine limit has been imposed for Control Room habitability purposes only. A limit of 9.47 μCi/g is imposed based on the most limiting small break LOCA outside containment. Provided reactor coolant iodine is maintained at or below this value, the Control Room Air Treatment System would not be required to maintain the radiological effects of the line break below GDC19 dose limits.

In the event of a large primary system break under reactor vessel hydrostatic or leakage test conditions with the reactor coolant temperature >215°F, the reactor not critical, and primary containment integrity not established, calculations show the resultant radiological dose at the exclusion area boundary to be conservatively bounded by the dose calculated for a main steam line break outside primary containment. This dose was calculated on the basis of the radioiodine concentration limit of 1.5 μCi of total iodine per gram of water. The reactor coolant sample required by Specification 4.2.4.c will be used to assure that the limit of Specification 3.2.4.c is not exceeded. The sample shall be taken during steady state conditions to ensure the results are representative of the steady state radioactive concentration for reactor vessel hydrostatic or leakage test conditions.

3.3.0 PRIMARY CONTAINMENT

APPLICABILITY

Applies to the operating status of the primary containment systems.

OBJECTIVE

To assure the integrity of the primary containment systems.

SPECIFICATION

Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 215°F and fuel is in the reactor vessel except while performing (1) low power physics tests at atmospheric pressure during or after refueling at power levels not to exceed 5 Mwt, (2) reactor vessel hydrostatic or leakage tests with the mode switch in refuel or shutdown, (3) scram time testing with the mode switch in refuel when performed in conjunction with reactor vessel hydrostatic or leakage tests, or (4) excess flow check valve testing with the mode switch in refuel or shutdown when performed in conjunction with reactor vessel hydrostatic or leakage tests.

LIMITING CONDITION FOR OPERATION

3.3.2 PRESSURE SUPPRESSION SYSTEM PRESSURE AND SUPPRESSION CHAMBER WATER TEMPERATURE AND LEVEL

Applicability:

Applies to the interrelated parameters of pressure suppression system pressure and suppression chamber water temperature and level.

Objective:

To assure that the peak suppression chamber pressure does not exceed design values in the event of a loss-of-coolant accident.

Specification:

a. The downcomers in the suppression chamber shall have a minimum submergence of three and one half feet and a maximum submergence of four and one quarter feet whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required.

b. During normal power operation, suppression chamber water temperature shall be less than or equal to 85°F.

SURVEILLANCE REQUIREMENT

4.3.2 PRESSURE SUPPRESSION SYSTEM PRESSURE AND SUPPRESSION CHAMBER WATER TEMPERATURE AND LEVEL

Applicability:

Applies to the periodic testing of the pressure suppression system pressure and suppression chamber water temperature and level.

Objective:

To assure that the pressure suppression system pressure and suppression chamber water temperature and level are within required limits.

Specification:

a. At least once per day the suppression chamber water level and temperature and pressure suppression system pressure shall be checked.

b. A visual inspection of the suppression chamber interior, including water line regions, shall be made at each major refueling outage.

LIMITING CONDITION FOR OPERATION

3.3.3 LEAKAGE RATE

Applicability:

Applies to the allowable leakage rate of the primary containment system.

Objective:

To assure the capability of the containment in limiting radiation exposure to the public from exceeding values specified in 10 CFR 100 in the event of a loss-of-coolant accident accompanied by significant fuel cladding failure and hydrogen generation from a metal-water reaction.

To assure that periodic surveillances of reactor containment penetrations and isolation valves are performed so that proper maintenance and repairs are made during the service life of the containment, and systems and components penetrating primary containment.

Specification:

Whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required, the primary containment leakage rate shall be limited to:

SURVEILLANCE REQUIREMENT

4.3.3 LEAKAGE RATE

Applicability:

Applies to the primary containment system leakage rate.

Objective:

To verify that the leakage from the primary containment system is maintained within specified values.

Specification:

a. 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 Specification 6.16.

b. The provisions of Specification 4.0.1 are not applicable, and the surveillance interval extensions are in accordance with the 10 CFR 50 Appendix J Testing Program Plan.

LIMITING CONDITION FOR OPERATION

3.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the operating status of the system of isolation valves on lines open to the free space of the primary containment.

Objective:

To assure that potential leakage paths from the primary containment in the event of a loss-of-coolant accident are minimized.

Specification:

a. Whenever the reactor coolant system temperature is greater than 215°F and primary containment integrity is required, all containment isolation valves on lines open to the free space of the primary containment shall be operable except as specified in 3.3.4b below.

b. In the event any isolation valve becomes inoperable the system shall be considered operable provided that within 4 hours at least one valve in each line having an inoperable valve is in the mode corresponding to the isolated condition.

SURVEILLANCE REQUIREMENT

4.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the periodic testing requirements of the primary containment isolation valve system.

Objective:

To assure the operability of the primary containment isolation valves to limit potential leakage paths from the containment in the event of a loss-of-coolant accident.

Specification:

The primary containment isolation valves surveillance shall be performed as indicated below.

a. At least once per operating cycle the operable isolation valves that are power operated and automatically initiated shall be tested for automatic initiation and closure times.

b. At least once per quarter all normally open power operated isolation valves shall be fully closed and reopened.

LIMITING CONDITION FOR OPERATION

3.3.5 ACCESS CONTROL

Applicability:

Applies to the access control to the primary containment.

Objective:

To assure the integrity of the primary containment system.

Specification:

Whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required, the following shall be in effect.

a. Only one door in each of the two double-door drywell access locks will be opened at one time.

b. The equipment hatch and drywell head and other flanged openings will be secured.

c. If following a routine surveillance check "a" or "b" is not met, initiate normal orderly shutdown within one hour and have reactor in the cold shutdown condition within ten hours.

SURVEILLANCE REQUIREMENT

4.3.5 ACCESS CONTROL

Applicability:

Applies to the surveillance on primary containment access control.

Objective:

To assure the operability of the primary containment access control interlocks.

Specification:

A mechanical interlock will be maintained to prevent simultaneous opening of two doors.

LIMITING CONDITION FOR OPERATION

3.3.7 CONTAINMENT SPRAY SYSTEM

Applicability:

Applies to the operating status of the containment spray system.

Objective:

To assure the capability of the containment spray system to limit containment pressure and temperature in the event of a loss-of-coolant accident.

Specification:

a. During all reactor operating conditions whenever reactor coolant temperature is greater than 215°F and fuel is in the reactor vessel and primary containment integrity is required; each of the two containment spray systems and the associated raw water cooling systems shall be operable except as specified in 3.3.7.b.

b. If a redundant component of a containment spray system becomes inoperable, Specification 3.3.7.a shall be considered fulfilled, provided that the component is returned to an operable condition within 15 days and that the additional surveillance required is performed.

SURVEILLANCE REQUIREMENT

4.3.7 CONTAINMENT SPRAY SYSTEM

Applicability:

Applies to the testing of the containment spray system.

Objective:

To verify the operability of the containment spray system.

Specification:

The containment spray system surveillance shall be performed as indicated below:

a. Containment Spray Pumps

(1) At least once per operating cycle, automatic startup of the containment spray pump shall be demonstrated.

(2) At least once per quarter, pump operability shall be checked.

b. Nozzles

At least once per operating cycle, an air test shall be performed on the spray headers and nozzles.

3.4.0 REACTOR BUILDING

APPLICABILITY

Applies to the operating status of the reactor building.

OBJECTIVE

To assure the integrity of the reactor building.

SPECIFICATION

Reactor building integrity must be in effect in the refueling and power operating conditions, when the reactor water temperature is above 215°F, and also whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

LIMITING CONDITION FOR OPERATION

3.4.1 LEAKAGE RATE

Applicability:

Applies to the leakage rate of the secondary containment.

Objective:

To specify the requirements necessary to limit exfiltration of fission products released to the secondary containment as a result of an accident.

Specification:

Whenever the reactor is in the refueling or power operating condition or when the reactor coolant system temperature is above 215°F, the reactor building leakage rate as determined by Specification 4.4.1 shall not exceed 1600 cfm. If this cannot be met after a routine surveillance check, then the actions listed below shall be taken:

a. Suspend immediately irradiated fuel handling, fuel pool and reactor cavity activities, and irradiated fuel cask handling operations in the reactor building.

b. Restore the reactor building leakage rates to within specified limits within 4 hours or initiate normal orderly shutdown and be in a cold shutdown condition within 10 hours.

SURVEILLANCE REQUIREMENT

4.4.1 LEAKAGE RATE

Applicability:

Applies to the periodic testing requirements of the secondary containment leakage rate.

Objective:

To assure the capability of the secondary containment to maintain leakage within allowable limits.

Specification:

Once during each operating cycle - isolate the reactor building and start emergency ventilation system fan to demonstrate negative pressure in the building relative to external static pressure. The fan flow rate shall be varied so that the building internal differential pressure is at least as negative as that on Figure 3.4.1 for the wind speed at which the test is conducted. The fan flow rate represents the reactor building leakage referenced to zero mph with building internal pressure at least 0.25 inch of water less than atmospheric pressure. The test shall be done at wind speeds less than 20 miles per hour.

LIMITING CONDITION FOR OPERATION

3.4.2 REACTOR BUILDING INTEGRITY - ISOLATION VALVES

Applicability:

Applies to the operational status of the reactor building isolation valves.

Objective:

To assure that fission products released to the secondary containment are discharged to the environment in a controlled manner using the emergency ventilation system.

Specification:

a. The normal Ventilation System isolation valves shall be operable whenever the reactor is in the refueling or power operating conditions, when the reactor coolant system temperature is above 215°F, and whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

b. If Specification 3.4.2a is not met, the reactor shall be in the cold shutdown condition within ten hours and handling of irradiated fuel cask shall cease.

SURVEILLANCE REQUIREMENT

4.4.2 REACTOR BUILDING INTEGRITY - ISOLATION VALVES

Applicability:

Applies to the periodic testing requirements of the reactor building isolation valves.

Objective:

To assure the operability of the reactor building isolation valves.

Specification:

At least once per operating cycle, automatic initiation of valves shall be checked.

LIMITING CONDITION FOR OPERATION

3.4.3 ACCESS CONTROL

Applicability:

Applies to the access control to the reactor building.

Objective:

To specify the requirements necessary to assure the integrity of the secondary containment system.

Specification:

a. Whenever the reactor is in the power operating condition, or when the reactor coolant system temperature is above 215°F, or when irradiated fuel is being handled in the reactor building, or during core alterations, or during irradiated fuel cask handling operations in the reactor building, the following conditions will be met:

   1. Only one door in each of the double-doored access ways shall be opened at one time.

   2. Only one door or closeup of the railroad bay shall be opened at one time.

   3. The core spray and containment spray pump compartments' doors shall be closed at all times except during passage in order to consider the core spray system and the containment spray system operable.

SURVEILLANCE REQUIREMENT

4.4.3 ACCESS CONTROL

Applicability:

Applies to the periodic checking of the condition of portions of the reactor building.

Objective:

To assure that pump compartments are properly closed at all times and to assure the integrity of the secondary containment system by verifying that reactor building access doors are closed, as required by Specifications 3.4.3.a.1 and 3.4.3.a.2.

Specification:

a. The core and containment spray pump compartments shall be checked once per week and after each entry.

LIMITING CONDITION FOR OPERATION

b. If these conditions cannot be met, then the actions listed below shall be taken:

1. If in the power operating condition, restore reactor building integrity within 4 hours or be in at least the hot shutdown condition within the next 12 hours and in the cold shutdown condition within the following 24 hours.

OR

If the reactor coolant system temperature is above 215°F, restore reactor building integrity within 4 hours or be in cold shutdown within the following 24 hours.

2. Suspend any of the following activities:

a. core alterations,

b. Handling of irradiated fuel in the reactor building,

c. irradiated fuel cask handling operations in the reactor building.

SURVEILLANCE REQUIREMENT

b. Verify at least once per 31 days that:

1. At least one door in each access to the secondary containment is closed.

2. At least one door or closeup of the railroad bay is closed.

The reactor building serves as a secondary containment when the reactor coolant system temperature is above 215°F and during normal Station operations and as a primary containment during refueling and other periods when the reactor coolant system temperature is above 215°F and the pressure suppression system is open or not required. Maintaining the building integrity and an operative emergency ventilation system for the conditions listed will ensure that any fission products inadvertently released to the reactor building will be routed through the emergency ventilation system to the stack. The worst such incident is due to dropping a fuel assembly on the core during refueling. The consequences of this are discussed in Section XV.C.3 of the FSAR.

As discussed in Section VI-F* all access openings of the reactor building have as a minimum two doors in series. Appropriate local alarms and control room indicators are provided to always insure that reactor building integrity is maintained. Surveillance of the reactor building access doors provides additional assurance that reactor building integrity is maintained.

Maintaining closed doors on the pump compartments ensures that suction to the core and containment spray pumps is not lost in case of a gross leak from the suppression chamber.

*FSAR

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The results of laboratory carbon sample analysis shall show ≥90% radioactive methyl iodide removal when tested in accordance with ANSI N.510-1980 at 80°C and 95% R.H.	b. The tests and sample analysis of Specification 3.4.4b, c and d shall be performed at least once per operating cycle or once every 24 months, or after 720 hours of system operation, whichever occurs first or following significant painting, fire or chemical release in any ventilation zone communicating with the system.
d. Fans shall be shown to operate within ±10% design flow.	c. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
e. During reactor operation, including when the reactor coolant system temperature is above 215°F, from and after the date that one circuit of the emergency ventilation system is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such circuit is sooner made operable, provided that during such seven days all active components of the other emergency ventilation circuit shall be operable. During refueling, from and after the date that one circuit of the emergency ventilation system is made or found to be inoperable for any reason, fuel handling is permissible during the succeeding seven days unless such circuit is sooner made operable, provided that during such seven days all active components of the other emergency ventilation circuit shall be operable. Fuel handling may continue beyond seven days provided the operable emergency ventilation circuit is in operation.	d. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing. e. Each circuit shall be operated with the inlet heater on at least 10 hours every month.
f. If these conditions cannot be met, within 36 hours, the reactor shall be placed in a condition for which the emergency ventilation system is not required.	f. Test sealing of gaskets for housing doors downstream of the HEPA filters and charcoal adsorbers shall be performed at and in conformance with each test performed for compliance with Specification 4.4.4b and Specification 3.4.4b.

LIMITING CONDITION FOR OPERATION

3.4.5 CONTROL ROOM AIR TREATMENT SYSTEM

Applicability:

Applies to the operating status of the control room air treatment system.

Objective:

To assure the capability of the control room air treatment system to minimize the amount of radioactivity or other gases entering the control room in the event of an incident.

Specification:

a. Except as specified in Specification 3.4.5e below, the control room air treatment system and the diesel generators required for operation of this system shall be operable during refueling and power operating conditions and also whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

b. The results of the in-place cold DOP and halogenated hydrocarbon test design flows on HEPA filters and charcoal adsorber banks shall show ≥99% DOP removal and ≥99% halogenated hydrocarbon removal when tested in accordance with ANSI N.510-1980.

SURVEILLANCE REQUIREMENT

4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM

Applicability:

Applies to the testing of the control room air treatment system.

Objective:

To assure the operability of the control room air treatment system.

Specification:

a. At least once per operating cycle, or once every 24 months, whichever occurs first, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate (±10%).

b. The tests and sample analysis of Specification 3.4.5b, c and d shall be performed at least once per operating cycle or once every 24 months, or after 720 hours of system operation, whichever occurs first or following significant painting, fire or chemical release in any ventilation zone communicating with the system.

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Supporting Information and No Significant Hazards Consideration Analysis

INTRODUCTION

Hydrostatic or leakage tests of the reactor coolant system, scram time testing (to verify control rod drive (CRD) system valve function), and excess flow check valve testing are all required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. Scram time testing is also required by Technical Specification (TS) Section 4.1.1 to demonstrate control rod system operability.

Hydrostatic tests are required to be performed once every ten years and leakage tests are required to be performed each refueling outage. The only significant differences between hydrostatic and leakage tests are the higher pressure and hold time for a hydrostatic test prior to performing the VT-2 visual examinations. ASME Code Cases N-416-1 and N-498-1 allow the use of a system leakage test at nominal operating pressure in lieu of performing a hydrostatic test. Appendix G to 10CFR50 states that "pressure tests and leak tests of the reactor vessel that are required by Section XI of the ASME Code must be completed before the core is critical." A reactor vessel hydrostatic or leakage test is performed with the reactor pressure vessel in an essentially water-solid condition (flooded up to the top of the reactor vessel head). Reactor vessel heatup is accomplished using the reactor recirculation pumps and the CRD pumps are used to achieve the required test pressure. The minimum allowed temperatures for these tests are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated neutron fluence. With increased reactor vessel fluence over time, the minimum allowable vessel temperature increases for a given pressure. For the current reactor vessel fluence, hydrostatic or leakage tests are required to be performed with minimum reactor coolant system temperatures greater than 215°F.

Scram time and excess flow check valve testing are performed under hydrostatic or leakage test conditions. Excess flow check valves are located on instrument lines that function to provide status and automatic trip signals relating to reactor vessel conditions. Excess flow check valves are designed to isolate in the event of a line break downstream of the valve and are operability tested during each scheduled refueling outage. The high pressure excess flow check valves are required to be tested at pressures greater than 200 psig. Control rod scram time testing is performed after each refueling outage prior to power operation with reactor pressure above 800 psig. Scram time testing meets the intent of the ASME Section XI testing requirements for the CRD system valves for the control rods tested and demonstrates that the CRD scram function has not deteriorated.

With the reactor coolant system temperature above 215°F, the current TSs require that primary containment integrity be maintained. Establishing primary containment integrity requires the drywell and suppression chamber to be closed, including installation of the drywell head. Installation of the drywell head and carousel (flashing type insulation) complicates access to the reactor vessel head area for required reactor vessel hydrostatic or leakage test VT-2 visual examinations due to the limited accessibility and potential for heat stress. In addition, due to safety concerns related to egress, access to the drywell is normally limited to only the VT-2 inspectors during the period that primary containment integrity is being maintained for hydrostatic or leakage testing. Continuous unobstructed access to the drywell is desired during the period when hydrostatic or leakage tests are being conducted to prevent the disruption of other required outage-related activities.

The proposed TS changes will allow performance of reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing without having to maintain primary containment integrity. To support the revision of the primary containment integrity requirements, TS changes are also proposed to establish a reactor coolant activity limit and an associated surveillance requirement. These new requirements will be applicable when the reactor coolant system temperature is above 215°F, the reactor is not critical, and primary containment integrity has not been established. In addition, TS changes are proposed to require reactor building integrity to be maintained when the reactor coolant system temperature is above 215°F. The addition of the reactor building integrity requirements provides consistency with the secondary containment safety functions as described in the Updated Final Safety Analysis Report (UFSAR). The Bases have been updated as appropriate to reflect the proposed changes to the TSs. With the addition of the reactor building integrity requirements, the proposed Limiting Conditions for Operation and Surveillance Requirements for Nine Mile Point Unit 1 for allowing hydrostatic or leakage tests without maintaining primary containment integrity are similar to those approved for the Monticello Nuclear Generating Plant on November 24, 1999.

EVALUATION

The proposed changes to TS Section 3.3.0, "Primary Containment," 3.3.2, "Pressure Suppression System Pressure and Suppression Chamber Water Temperature and Level," 3.3.3, "Leakage Rate," 3.3.4, "Primary Containment Isolation Valves," 3.3.5, "Access Control," and 3.3.7, "Containment Spray System," will allow performance of reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing when the reactor coolant system temperature is above 215°F without having to maintain primary containment integrity. The changes to TS Section 3.3.0 essentially provide exceptions to the current requirements for establishing primary containment integrity. Appropriate mode switch positions are identified for clarity. The proposed exception for reactor vessel hydrostatic or leakage testing is consistent with the intent of TS Section 3.10.1 and Bases Section B 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," of NUREG-1433, Revision 1, "Standard Technical Specifications General Electric Plants, BWR/4." The changes to TS Sections 3.3.2, 3.3.3, 3.3.4, 3.3.5, and 3.3.7 were necessary to account for the condition when the reactor coolant system temperature is above 215°F but primary containment integrity is not required (i.e., during the performance of reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing in conjunction with reactor vessel hydrostatic or leakage tests).

Changes are also proposed to TS Sections 3.2.4 and 4.2.4, "Reactor Coolant Activity." The change to Section 3.2.4 establishes a limit on reactor coolant activity and the change to Section 4.2.4 adds a surveillance requirement to sample and analyze the reactor coolant for radioiodine. These new requirements will be applicable when reactor coolant system temperature is above 215°F, the reactor is not critical, and primary containment integrity is not being maintained. The addition of these new requirements provides assurance that the consequences of a large primary system break during a reactor vessel hydrostatic or leakage test or an instrument line break during excess flow check valve testing remain conservatively bounded by the main steam line break outside containment accident. The main steam line break outside primary containment accident has been previously evaluated in Section XV-C.1, "Main Steam Line Break Outside the Drywell," of the UFSAR.

In addition, changes are proposed for TS Sections 3.4.0, "Reactor Building," 3.4.1, "Leakage Rate," 3.4.2, "Reactor Building Integrity – Isolation Valves," 3.4.3, "Access Control," and 3.4.4, "Emergency Ventilation System," to require reactor building integrity to be maintained when the reactor coolant system temperature is above 215°F. These changes are conservative in that new applicability requirements are being added. A change to TS Section 3.4.5, "Control Room Air Treatment System," was also necessary because the proposed changes to the reactor building integrity requirements are not applicable to the control room air treatment system. The proposed changes to the reactor building integrity requirements ensure the reactor building will be available to function as secondary containment when the primary containment is in service and as primary containment when the reactor coolant system temperature is above 215°F and the primary containment is open or primary containment integrity is not required to be maintained. If reactor building integrity cannot be maintained, the plant will be placed in a condition where reactor building integrity is not required. The action and allowed outage time proposed for Specification 3.4.3.b.1 are consistent with TS Section 3.10.1 Action A.1 of NUREG-1433 when the secondary containment integrity requirements cannot be met during hydrostatic or leakage testing. The reactor building completely encloses the primary containment and its major secondary containment safety function is to minimize ground-level release of airborne radioactive materials by providing controlled, elevated release of the reactor building atmosphere through the emergency ventilation filter system under accident conditions. The primary and secondary containment safety functions are described in Section VI of the UFSAR.

Under reactor vessel hydrostatic or leakage test conditions above 215°F, additional energy is stored in the reactor coolant which increases the potential for steam leaks rather than water leaks. Small steam leaks would be detected by leakage inspections or reactor coolant system leakage monitoring equipment before significant inventory losses occurred. The proposed addition of the requirements to maintain reactor building integrity when the reactor coolant system temperature is above 215°F provides assurance that secondary containment and the emergency ventilation system would be capable of handling any airborne radioactivity from small steam leaks. Thus, any corresponding radiological release to the environment would be treated and monitored prior to its elevated release via the stack. The emergency ventilation system and radiation monitors are described in Sections VII.H and VIII.C.3 of the UFSAR, respectively.

Nine Mile Point Unit 1 hydrostatic or leakage tests are conducted at the end of a refuel outage in an essentially water-solid condition, at low decay heat values, near cold shutdown conditions, and, except during control rod scram time testing, with all control

rods fully inserted. The heat being added to achieve the required temperatures during a hydrostatic or leakage test is primarily from operation of the reactor recirculation pumps. Under these conditions, the stored energy in the reactor core will be low and the potential for failed fuel is minimized since a large primary system break would quickly depressurize the reactor vessel allowing the core spray system to maintain core cooling. The probability of a core damage event resulting from hydrostatic or leakage testing has been evaluated and determined to be below the level considered credible. Accordingly, fuel failure is not postulated.

During scram time testing, which is performed under hydrostatic or leakage test conditions, the reactor mode switch is placed in the refuel position. In the refuel position, the refueling interlocks are in place and the associated one-rod-out interlock will prevent withdrawal of more than one control rod. As a result, the refueling interlocks will preclude a reactivity excursion. Therefore, performing scram time testing in conjunction with hydrostatic or leakage tests when reactor coolant system temperatures are above 215°F without maintaining primary containment integrity is considered acceptable.

In the unlikely event of a large primary system break when performing reactor vessel hydrostatic or leakage tests above 215°F, a portion of the reactor coolant would flash to steam creating elevated temperatures and pressures. Without primary containment integrity, the secondary containment would be pressurized. The potential adverse effects of such a condition would be harsh environments in the secondary containment and a ground level radiological release to the environment. Evaluation of the environmental conditions in the secondary containment for the postulated accident has determined that the equipment required to function would be environmentally qualified to perform its safety-related functions. As previously discussed, the probability of a core damage event resulting from hydrostatic or leakage testing has been determined to be below the level considered credible and fuel failure is not postulated. As a result, the radiological analysis of a large primary system break under reactor vessel hydrostatic or leakage test conditions does not assume fuel failure. The analysis conservatively assumes that all of the reactor coolant (9.36×10^5 lbm, which includes the volumes contained in the reactor vessel, recirculation lines, main steam lines, and other reactor vessel attached piping up to the external isolation valves) is released from the break. The postulated event is assumed to over-pressurize and rupture the secondary containment blowout panels. Of the reactor coolant mass release, a portion is released from the break to the secondary containment as flashed steam and moisture droplets, 62,300 lb_m of which escapes to the environment through the secondary containment blowout panels. This airborne component escaping through the blowout panels represents less than 7% of the total mass release. Therefore, it is conservatively assumed that 10% of the iodine entrained in the reactor coolant just prior to the break is released airborne to the environment. The remaining iodine is assumed to stay behind with the remaining reactor coolant inside the secondary containment, with only its noble gas daughter products being released to the environment. The reactor coolant temperature and pressure just before the primary system break are assumed to be 275°F and 1,250 psia, respectively. It is not anticipated that future hydrostatic or leakage tests would exceed 275°F.

Based on the results of the radiological analysis, a limit on the total iodine of 1.5 microcuries/gram of water in the reactor coolant has been proposed to limit the radioactive material released to the environment assuming a ground-level puff release. In addition, a surveillance requirement is proposed to sample and analyze the reactor coolant for

radioiodine within 24 hours prior to raising the reactor coolant system temperature above 215°F. The proposed coolant activity requirement would limit the potential thyroid doses, due to a primary system break during reactor vessel hydrostatic or leakage test conditions, to 0.75 rem at the exclusion area boundary (EAB) and 9.3 rem in the control room. The potential whole body doses would be limited to 6.2E-03 rem at the EAB and 4.0E-03 rem in the control room. The radiological analysis does not take credit for control room air treatment system operation. Low population zone doses were not calculated because the larger X/Q associated with 2-hour EAB doses resulting from puff releases ensures that the EAB doses are the bounding offsite doses. The potential doses calculated for a postulated main steam line break outside containment accident, which also do not credit control room air treatment system operation, are 7.2 rem thyroid and 8E-02 rem whole body at the EAB and 28.6 rem thyroid and 5E-03 rem whole body in the control room. When compared to these doses, the potential thyroid and whole body doses calculated for a large primary system break during reactor vessel hydrostatic or leakage test conditions are conservative. Therefore, the new primary coolant activity limit and associated surveillance requirement provide assurance that the consequences of a large primary system break during a reactor vessel hydrostatic or leakage test above 215°F without primary containment integrity will be conservatively bounded by the consequences of the main steam line break outside of primary containment accident. Furthermore, the results of the radiological analysis for the postulated large primary system break during hydrostatic or leakage test conditions also bound a postulated instrument line break during excess flow check valve testing. Accordingly, the consequences of both postulated accidents will remain within the acceptance guidelines of 10CFR100 for offsite doses and 10CFR50, Appendix A, General Design Criterion (GDC) 19 for control room doses.

CONCLUSIONS

The proposed changes provide exceptions to the current requirements for establishing primary containment integrity by allowing reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing to be conducted above 215°F without maintaining primary containment integrity. During the performance of these tests, small leaks would be detected by leakage inspections or reactor coolant system leakage monitoring equipment before significant inventory loss occurred. The proposed addition of the requirements to maintain reactor building integrity when the reactor coolant system temperature is above 215°F provides assurance that secondary containment and the emergency ventilation system would be capable of handling any airborne radioactivity from small steam leaks consistent with the UFSAR. During scram time testing, which is performed under hydrostatic or leakage test conditions, the existing refueling interlocks preclude a reactivity excursion. To limit the radioactive material releases to the environment assuming a ground level release, it has been proposed to establish a limit on the total iodine in the reactor coolant and add an associated sampling and analysis surveillance requirement. These new requirements provide assurance that, in the unlikely event a large primary system break or an instrument line break during excess flow check valve testing were to occur under reactor vessel hydrostatic or leakage test conditions above 215°F without primary containment integrity, the consequences would be conservatively bounded by the consequences of the previously analyzed main steam line break outside of primary containment accident. As such, the consequences will remain within the acceptance guidelines of 10CFR100 and GDC 19.

Therefore, based on the above evaluation and associated conclusions, Niagara Mohawk Power Corporation believes there is reasonable assurance that this proposed TS

amendment 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

According to 10CFR50.91, at the time a licensee requests an amendment to its operating license, the licensee must provide to the NRC 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 considerations 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.

Niagara Mohawk Power Corporation (NMPC) has evaluated this proposed amendment pursuant to 10CFR50.91 and has determined that it involves no significant hazards considerations.

The following analysis has been performed:

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

The proposed changes provide exceptions to the current requirements for establishing primary containment integrity by allowing reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing to be conducted above 215°F without maintaining primary containment integrity. Scram time and excess flow check valve testing are performed under hydrostatic or leakage test conditions. The proposed changes also establish a limit on the total iodine in the reactor coolant and add a surveillance requirement to sample and analyze the reactor coolant for radioiodine prior to raising the reactor coolant system temperature above 215°F. In addition, changes are proposed to require reactor building integrity to be maintained when the reactor coolant system temperature is above 215°F.

Under reactor vessel hydrostatic or leakage test conditions above 215°F, additional energy is stored in the reactor coolant which increases the potential for steam leaks rather than water leaks. Small leaks would be detected by leakage inspections or reactor coolant system leakage monitoring equipment before significant inventory losses occurred. The proposed addition of requirements to maintain reactor building integrity when the reactor coolant system temperature is above 215°F provides assurance that secondary containment and the emergency ventilation system would be capable of handling any airborne radioactivity from small steam leaks. Hydrostatic or leakage tests are performed at the end of a refuel outage in an essentially water-solid condition, at low decay heat

values, near cold shutdown conditions, and, except during control rod scram time testing, with all control rods fully inserted. Under these conditions, the stored energy in the reactor core will be low and the potential for failed fuel is minimized since a large primary system break would quickly depressurize the reactor vessel allowing the core spray system to maintain core cooling. The probability of a core damage event resulting from hydrostatic or leakage testing has been evaluated and determined to be below the level considered credible. As a result, fuel failure is not postulated and the potential radioactive material releases to the environment would be equivalent to the total activity in the reactor coolant contained in the vessel, recirculation lines, main steam lines, and other reactor vessel attached piping up to the external isolation valves at the start of the hydrostatic or leakage test. To limit the radioactive material releases to the environment under these conditions, NMPC proposes to establish a limit on the total iodine in the reactor coolant and add an associated sampling and analysis surveillance requirement. These new requirements provide assurance that, in the unlikely event a large primary system break or an instrument line break during excess flow check valve testing were to occur under reactor vessel hydrostatic or leakage test conditions above 215°F without primary containment integrity, the consequences would be conservatively bounded by the consequences of the previously analyzed main steam line break outside of primary containment accident. During scram time testing, which is performed under hydrostatic or leakage test conditions, the existing refueling interlocks preclude a reactivity excursion. Therefore, the proposed changes will not adversely affect the reactor vessel or the reactor fuel in a manner that could increase the probability of an accident. Furthermore, the reduced stored energy in the reactor vessel, the proposed reactor building integrity requirements, and the proposed limit on reactor coolant activity provide assurance that the proposed changes will not increase the consequences of an accident. Accordingly, operation in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed changes do not involve a physical alteration of the plant or affect 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 changes will not introduce any new modes of plant operation or eliminate any actions required to prevent accidents. The proposed changes provide exceptions to the current requirements for establishing primary containment integrity by allowing reactor vessel hydrostatic or leakage tests and scram time and excess flow check valve testing to be conducted above 215°F without maintaining primary containment integrity. Under reactor vessel hydrostatic or leakage test conditions above 215°F, additional energy is stored in the reactor coolant which increases the potential for steam leaks rather than water leaks. The proposed addition of requirements to maintain reactor building integrity when the reactor coolant system temperature is above 215°F provides assurance that secondary containment and the emergency ventilation system would be capable of handling any airborne radioactivity from small steam leaks such that any corresponding radiological release to the environment would be treated and monitored prior to its elevated release via the stack. Without primary containment integrity, the potential effects of a large primary system break under hydrostatic or leakage test conditions, which bound the effects of an instrument line break during excess flow check valve testing under hydrostatic or leakage

test conditions, would be harsh environmental conditions in the secondary containment, and a ground level radiological release of the same kind as previously evaluated for the main steam line break outside primary containment accident. Evaluation of the environmental conditions in the secondary containment for the bounding large primary system break at reactor vessel hydrostatic or leakage test conditions above 215°F has determined that the equipment required to function would be environmentally qualified to perform its safety-related functions. In addition, when performing control rod scram time testing above 215°without primary containment integrity, the existing refueling interlocks will preclude a reactivity excursion. Accordingly, operation 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 operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.</u>

When performing hydrostatic or leakage tests and excess flow check valve testing, the stored energy in the reactor core will be low and the potential for failed fuel resulting from the bounding large primary system break is not considered credible. During scram time testing, the existing refueling interlocks preclude a reactivity excursion. Therefore, hydrostatic or leakage tests and scram time and excess flow check valve testing above 215°F without primary containment integrity will not affect the margin to any fuel safety limits. To limit the radioactive material releases to the environment, NMPC proposes to establish a limit on the total iodine in the reactor coolant and add an associated sampling and analysis surveillance requirement. These new requirements provide assurance that, in the unlikely event a large primary system break or an instrument line break during excess flow check valve testing were to occur under reactor vessel hydrostatic or leakage test conditions above 215°F without primary containment integrity, the consequences would be conservatively bounded by the consequences of the previously analyzed main steam line break outside of primary containment accident. Therefore, the proposed changes will not result in a reduction in the margins to the accident radiation exposure acceptance guidelines of 10CFR100 and 10CFR50, Appendix A, General Design Criterion 19. Accordingly, operation in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

"Marked-Up" Copy of the Current Technical Specifications (TSs)

The current version of TS pages 99, 123, 127, 131, 143, 151, 159, 164, 165, 168, 170, 171, 174, and 178 and Bases pages 100 and 172 have been marked-up by hand to reflect the proposed changes.

LIMITING CONDITION FOR OPERATION

3.2.4 REACTOR COOLANT ACTIVITY

Applicability:

Applies to the limits on reactor coolant activity at all operating conditions.

Objective:

To assure that in the event of a reactor coolant system line break outside the drywell permissible doses are not exceeded.

Specification:

a. The reactor coolant system radioactivity concentration in water shall not exceed 9.47 microcuries of total iodine per gram of water.

b. If Specification 3.2.4 a, above, cannot be met after a routine surveillance check, the reactor shall be placed in the cold shutdown condition within ten hours.

A

c. The steady state radioiodine concentration in the reactor coolant shall not exceed 1.5 microcuries of total iodine per gram of water when the reactor coolant temperature is >215°F, the reactor is not critical, and primary containment integrity has not been established.

SURVEILLANCE REQUIREMENT

4.2.4 REACTOR COOLANT ACTIVITY

Applicability:

Applies to the periodic testing requirements of the reactor coolant activity.

Objective:

To assure that limits on coolant activity are not exceeded.

Specification:

a. Samples shall be taken at least every 96 hours and analyzed for gross gamma activity.

b. Isotopic analyses of samples shall be made at least once per month.

A

c. A sample of reactor coolant shall be taken and analyzed for radioactive iodines of I-131 through I-135 within 24 hours prior to raising the reactor coolant temperature >215°F, with the reactor not critical, and with primary containment integrity not established.

BASES FOR 3.2.4 AND 4.2.4 REACTOR COOLANT ACTIVITY

The primary coolant radioactivity concentration limit of 25 μCi total iodine per gram of water was calculated based on a steamline break accident which is isolated in 10.5 seconds. For this accident analysis, all the iodine in the mass of coolant released in this time period is assumed to be released to the atmosphere at the top of the turbine building (30 meters). By limiting the thyroid dose at the site boundary to a maximum of 30 Rem, the iodine concentration in the primary coolant is back-calculated assuming fumigation meteorology, Pasquill Type F at 1m/sec. The iodine concentration in the primary coolant resulting from this analysis is 25 μCi/gm.

A radioactivity concentration limit of 25 μCi/g total iodine could only be reached if the gaseous effluents were near the limit based on the assumed effluent isotopic content (Table A-12 of the FSAR) and the fact that the primary coolant cleanup systems were inoperative. When the cleanup system is operating, it is expected that the primary coolant radioactivity would be about 12 μCi/g total iodine. The concentrations expected during operations with a gaseous effluent of about 0.1 μCi/sec would be about 1.5 μCi/g total iodine.

The reactor water sample will be used to assure that the limit of Specification 3.2.4 is not exceeded. The total radioactive iodine activity would not be expected to change rapidly over a period of 96 hours. In addition, the trend of the stack offgas release rate, which is continuously monitored, is a good indicator of the trend of the iodine activity in the reactor coolant.

Since the concentration of radioactivity in the reactor coolant is not continuously measured, coolant sampling would be ineffective as a means to rapidly detect gross fuel element failures. However, as discussed in the bases for Specification 3.6.2, some capability to detect gross fuel element failures is inherent in the radiation monitors in the offgas system and on the main steam lines.

A more restrictive reactor coolant total iodine limit has been imposed for Control Room habitability purposes only. A limit of 9.47 μCi/g is imposed based on the most limiting small break LOCA outside containment. Provided reactor coolant iodine is maintained at or below this value, the Control Room Air Treatment System would not be required to maintain the radiological effects of the line break below GDC19 dose limits.

In the event of a large primary system break under reactor vessel hydrostatic or leakage test conditions with the reactor coolant temperature > 215°F, the reactor not critical, and primary containment integrity not established, calculations show the resultant radiological dose at the exclusion area boundary to be conservatively bounded by the dose calculated for a main steam line break outside primary containment. This dose was calculated on the basis of the radioiodine concentration limit of 1.5 μCi of total iodine per gram of water. The reactor coolant sample required by Specification 4.2.4.c will be used to assure that the limit of Specification 3.2.4.c is not exceeded. The sample shall be taken during steady state conditions to ensure the results are representative of the steady state radioactive concentration for reactor vessel hydrostatic or leakage test conditions.

3.3.0 PRIMARY CONTAINMENT

APPLICABILITY

Applies to the operating status of the primary containment systems.

OBJECTIVE

To assure the integrity of the primary containment systems.

SPECIFICATION

Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 215°F and fuel is in the reactor vessel except while performing (1) low power physics tests at atmospheric pressure during or after refueling at power levels not to exceed 5 Mwt, (2) reactor vessel hydrostatic or leakage tests with the mode switch in refuel or shutdown, (3) scram time testing with the mode switch in refuel when performed in conjunction with reactor vessel hydrostatic or leakage tests, or (4) excess flow check valve testing with the mode switch in refuel or shutdown when performed in conjunction with reactor vessel hydrostatic or leakage tests.

LIMITING CONDITION FOR OPERATION

3.3.2 PRESSURE SUPPRESSION SYSTEM PRESSURE AND SUPPRESSION CHAMBER WATER TEMPERATURE AND LEVEL

Applicability:

Applies to the interrelated parameters of pressure suppression system pressure and suppression chamber water temperature and level.

Objective:

To assure that the peak suppression chamber pressure does not exceed design values in the event of a loss-of-coolant accident.

Specification:

a. The downcomers in the suppression chamber shall have a minimum submergence of three and one half feet and a maximum submergence of four and one quarter feet whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required.

b. During normal power operation, suppression chamber water temperature shall be less than or equal to 85°F.

SURVEILLANCE REQUIREMENT

4.3.2 PRESSURE SUPPRESSION SYSTEM PRESSURE AND SUPPRESSION CHAMBER WATER TEMPERATURE AND LEVEL

Applicability:

Applies to the periodic testing of the pressure suppression system pressure and suppression chamber water temperature and level.

Objective:

To assure that the pressure suppression system pressure and suppression chamber water temperature and level are within required limits.

Specification:

a. At least once per day the suppression chamber water level and temperature and pressure suppression system pressure shall be checked.

b. A visual inspection of the suppression chamber interior, including water line regions, shall be made at each major refueling outage.

LIMITING CONDITION FOR OPERATION

3.3.3 LEAKAGE RATE

Applicability:

Applies to the allowable leakage rate of the primary containment system.

Objective:

To assure the capability of the containment in limiting radiation exposure to the public from exceeding values specified in 10 CFR 100 in the event of a loss-of-coolant accident accompanied by significant fuel cladding failure and hydrogen generation from a metal-water reaction.

To assure that periodic surveillances of reactor containment penetrations and isolation valves are performed so that proper maintenance and repairs are made during the service life of the containment, and systems and components penetrating primary containment.

Specification:

Whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required the primary containment leakage rate shall be limited to:

SURVEILLANCE REQUIREMENT

4.3.3 LEAKAGE RATE

Applicability:

Applies to the primary containment system leakage rate.

Objective:

To verify that the leakage from the primary containment system is maintained within specified values.

Specification:

a. 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 Specification 6.16.

b. The provisions of Specification 4.0.1 are not applicable, and the surveillance interval extensions are in accordance with the 10 CFR 50 Appendix J Testing Program Plan.

LIMITING CONDITION FOR OPERATION

3.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the operating status of the system of isolation valves on lines open to the free space of the primary containment.

Objective:

To assure that potential leakage paths from the primary containment in the event of a loss-of-coolant accident are minimized.

Specification:

a. Whenever the reactor coolant system temperature is greater than 215°F and primary containment integrity is required, all containment isolation valves on lines open to the free space of the primary containment shall be operable except as specified in 3.3.4b below.

b. In the event any isolation valve becomes inoperable the system shall be considered operable provided that within 4 hours at least one valve in each line having an inoperable valve is in the mode corresponding to the isolated condition.

SURVEILLANCE REQUIREMENT

4.3.4 PRIMARY CONTAINMENT ISOLATION VALVES

Applicability:

Applies to the periodic testing requirements of the primary containment isolation valve system.

Objective:

To assure the operability of the primary containment isolation valves to limit potential leakage paths from the containment in the event of a loss-of-coolant accident.

Specification:

The primary containment isolation valves surveillance shall be performed as indicated below.

a. At least once per operating cycle the operable isolation valves that are power operated and automatically initiated shall be tested for automatic initiation and closure times.

b. At least once per quarter all normally open power operated isolation valves shall be fully closed and reopened.

LIMITING CONDITION FOR OPERATION

3.3.5 ACCESS CONTROL

Applicability:

Applies to the access control to the primary containment.

Objective:

To assure the integrity of the primary containment system.

Specification:

Whenever the reactor coolant system temperature is above 215°F and primary containment integrity is required the following shall be in effect.

a. Only one door in each of the two double-door drywell access locks will be opened at one time.

b. The equipment hatch and drywell head and other flanged openings will be secured.

c. If following a routine surveillance check "a" or "b" is not met, initiate normal orderly shutdown within one hour and have reactor in the cold shutdown condition within ten hours.

SURVEILLANCE REQUIREMENT

4.3.5 ACCESS CONTROL

Applicability:

Applies to the surveillance on primary containment access control.

Objective:

To assure the operability of the primary containment access control interlocks.

Specification:

A mechanical interlock will be maintained to prevent simultaneous opening of two doors.

LIMITING CONDITION FOR OPERATION

3.3.7 CONTAINMENT SPRAY SYSTEM

Applicability:

Applies to the operating status of the containment spray system.

Objective:

To assure the capability of the containment spray system to limit containment pressure and temperature in the event of a loss-of-coolant accident.

Specification:

and primary containment integrity is required

a. During all reactor operating conditions whenever reactor coolant temperature is greater than 215°F and fuel is in the reactor vessel, each of the two containment spray systems and the associated raw water cooling systems shall be operable except as specified in 3.3.7.b.

b. If a redundant component of a containment spray system becomes inoperable, Specification 3.3.7.a shall be considered fulfilled, provided that the component is returned to an operable condition within 15 days and that the additional surveillance required is performed.

SURVEILLANCE REQUIREMENT

4.3.7 CONTAINMENT SPRAY SYSTEM

Applicability:

Applies to the testing of the containment spray system.

Objective:

To verify the operability of the containment spray system.

Specification:

The containment spray system surveillance shall be performed as indicated below:

a. Containment Spray Pumps

(1) At least once per operating cycle, automatic startup of the containment spray pump shall be demonstrated.

(2) At least once per quarter, pump operability shall be checked.

b. Nozzles

At least once per operating cycle, an air test shall be performed on the spray headers and nozzles.

3.4.0 REACTOR BUILDING

APPLICABILITY

Applies to the operating status of the reactor building.

OBJECTIVE

To assure the integrity of the reactor building.

SPECIFICATION

Reactor building integrity must be in effect in the refueling and power operating conditions, when the reactor water temperature is above 215°F, and also whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

LIMITING CONDITION FOR OPERATION

3.4.1 LEAKAGE RATE

Applicability:

Applies to the leakage rate of the secondary containment.

Objective:

To specify the requirements necessary to limit exfiltration of fission products released to the secondary containment as a result of an accident.

Specification:

Whenever the reactor is in the refueling or power operating condition, or when the reactor coolant system temperature is above 215 °F, the reactor building leakage rate as determined by Specification 4.4.1 shall not exceed 1600 cfm. If this cannot be met after a routine surveillance check, then the actions listed below shall be taken:

a. Suspend immediately irradiated fuel handling, fuel pool and reactor cavity activities, and irradiated fuel cask handling operations in the reactor building.

b. Restore the reactor building leakage rates to within specified limits within 4 hours or initiate normal orderly shutdown and be in a cold shutdown condition within 10 hours.

SURVEILLANCE REQUIREMENT

4.4.1 LEAKAGE RATE

Applicability:

Applies to the periodic testing requirements of the secondary containment leakage rate.

Objective:

To assure the capability of the secondary containment to maintain leakage within allowable limits.

Specification:

Once during each operating cycle - isolate the reactor building and start emergency ventilation system fan to demonstrate negative pressure in the building relative to external static pressure. The fan flow rate shall be varied so that the building internal differential pressure is at least as negative as that on Figure 3.4.1 for the wind speed at which the test is conducted. The fan flow rate represents the reactor building leakage referenced to zero mph with building internal pressure at least 0.25 inch of water less than atmospheric pressure. The test shall be done at wind speeds less than 20 miles per hour.

LIMITING CONDITION FOR OPERATION

3.4.2 REACTOR BUILDING INTEGRITY - ISOLATION VALVES

Applicability:

Applies to the operational status of the reactor building isolation valves.

Objective:

To assure that fission products released to the secondary containment are discharged to the environment in a controlled manner using the emergency ventilation system.

Specification:

a. The normal Ventilation System isolation valves shall be operable whenever the reactor is in the refueling or power operating conditions, when the reactor coolant system temperature is above 215°F, and whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

b. If Specification 3.4.2a is not met, the reactor shall be in the cold shutdown condition within ten hours and handling of irradiated fuel cask shall cease.

SURVEILLANCE REQUIREMENT

4.4.2 REACTOR BUILDING INTEGRITY - ISOLATION VALVES

Applicability:

Applies to the periodic testing requirements of the reactor building isolation valves.

Objective:

To assure the operability of the reactor building isolation valves.

Specification:

At least once per operating cycle, automatic initiation of valves shall be checked.

LIMITING CONDITION FOR OPERATION

3.4.3 ACCESS CONTROL

Applicability:

Applies to the access control to the reactor building.

Objective:

To specify the requirements necessary to assure the integrity of the secondary containment system.

Specification:

a. Whenever the reactor is in the power operating condition, or when the reactor coolant system temperature is above 215°F, or when irradiated fuel is being handled in the reactor building, or during core alterations, or during irradiated fuel cask handling operations in the reactor building, the following conditions will be met:

   1. Only one door in each of the double-doored access ways shall be opened at one time.

   2. Only one door or closeup of the railroad bay shall be opened at one time.

   3. The core spray and containment spray pump compartments' doors shall be closed at all times except during passage in order to consider the core spray system and the containment spray system operable.

SURVEILLANCE REQUIREMENT

4.4.3 ACCESS CONTROL

Applicability:

Applies to the periodic checking of the condition of portions of the reactor building.

Objective:

To assure that pump compartments are properly closed at all times and to assure the integrity of the secondary containment system by verifying that reactor building access doors are closed, as required by Specifications 3.4.3.a.1 and 3.4.3.a.2.

Specification:

a. The core and containment spray pump compartments shall be checked once per week and after each entry.

LIMITING CONDITION FOR OPERATION

b. If these conditions cannot be met, then the actions listed below shall be taken:

1. If in the power operating condition, restore reactor building integrity within 4 hours or be in at least the hot shutdown condition within the next 12 hours and in the cold shutdown condition within the following 24 hours.

2. Suspend any of the following activities:

   a. core alterations,

   b. Handling of irradiated fuel in the reactor building,

   c. irradiated fuel cask handling operations in the reactor building.

OR

If the reactor coolant system temperature is above 215°F, restore reactor building integrity within 4 hours or be in cold shutdown within the following 24 hours.

SURVEILLANCE REQUIREMENT

b. Verify at least once per 31 days that:

1. At least one door in each access to the secondary containment is closed.

2. At least one door or closeup of the railroad bay is closed.

reactor coolant system temperature is above 215°F and the

BASES FOR 3.4.3 AND 4.4.3 ACCESS CONTROL

when the reactor coolant system temperature is above 215°F and

The reactor building serves as a secondary containment during normal Station operations and as a primary containment during refueling and other periods when the pressure suppression system is open. Maintaining the building integrity and an operative emergency ventilation system for the conditions listed will ensure that any fission products inadvertently released to the reactor building will be routed through the emergency ventilation system to the stack. The worst such incident is due to dropping a fuel assembly on the core during refueling. The consequences of this are discussed in Section XV.C.3 of the FSAR.

or not required

As discussed in Section VI-F* all access openings of the reactor building have as a minimum two doors in series. Appropriate local alarms and control room indicators are provided to always insure that reactor building integrity is maintained. Surveillance of the reactor building access doors provides additional assurance that reactor building integrity is maintained.

Maintaining closed doors on the pump compartments ensures that suction to the core and containment spray pumps is not lost in case of a gross leak from the suppression chamber.

*FSAR

LIMITING CONDITION FOR OPERATION

c. The results of laboratory carbon sample analysis shall show ≥90% radioactive methyl iodide removal when tested in accordance with ANSI N.510-1980 at 80°C and 95% R.H.

d. Fans shall be shown to operate within ±10% design flow.

e. During reactor operation, including when the reactor coolant system temperature is above 215°F, from and after the date that one circuit of the emergency ventilation system is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such circuit is sooner made operable, provided that during such seven days all active components of the other emergency ventilation circuit shall be operable.

During refueling, from and after the date that one circuit of the emergency ventilation system is made or found to be inoperable for any reason, fuel handling is permissible during the succeeding seven days unless such circuit is sooner made operable, provided that during such seven days all active components of the other emergency ventilation circuit shall be operable. Fuel handling may continue beyond seven days provided the operable emergency ventilation circuit is in operation.

f. If these conditions cannot be met, within 36 hours, the reactor shall be placed in a condition for which the emergency ventilation system is not required.

SURVEILLANCE REQUIREMENT

b. The tests and sample analysis of Specification 3.4.4b, c and d shall be performed at least once per operating cycle or once every 24 months, or after 720 hours of system operation, whichever occurs first or following significant painting, fire or chemical release in any ventilation zone communicating with the system.

c. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.

d. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.

e. Each circuit shall be operated with the inlet heater on at least 10 hours every month.

f. Test sealing of gaskets for housing doors downstream of the HEPA filters and charcoal adsorbers shall be performed at and in conformance with each test performed for compliance with Specification 4.4.4b and Specification 3.4.4b.

LIMITING CONDITION FOR OPERATION

3.4.5 CONTROL ROOM AIR TREATMENT SYSTEM

Applicability:

Applies to the operating status of the control room air treatment system.

Objective:

To assure the capability of the control room air treatment system to minimize the amount of radioactivity or other gases entering the control room in the event of an incident.

Specification:

a. Except as specified in Specification 3.4.5e below, the control room air treatment system and the diesel generators required for operation of this system shall be operable ~~at all times when reactor building integrity is required~~ during refueling and power operating conditions and also whenever irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

b. The results of the in-place cold DOP and halogenated hydrocarbon test design flows on HEPA filters and charcoal adsorber banks shall show ≥99% DOP removal and ≥99% halogenated hydrocarbon removal when tested in accordance with ANSI N.510-1980.

SURVEILLANCE REQUIREMENT

4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM

Applicability:

Applies to the testing of the control room air treatment system.

Objective:

To assure the operability of the control room air treatment system.

Specification:

a. At least once per operating cycle, or once every 24 months, whichever occurs first, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate (±10%).

b. The tests and sample analysis of Specification 3.4.5b, c and d shall be performed at least once per operating cycle or once every 24 months, or after 720 hours of system operation, whichever occurs first or following significant painting, fire or chemical release in any ventilation zone communicating with the system.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Eligibility for Categorical Exclusion from Performing an Environmental Assessment

The provisions of 10CFR51.22 provide criteria for, and identification of, licensing and regulatory actions eligible for exclusion from performing an environmental assessment. Niagara Mohawk Power Corporation has reviewed the proposed amendment and determined that it does not involve significant hazard considerations, 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 10CFR51.22(c)(9) and, pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with the issuance of this license amendment.