Niagara Mohawk

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March 6, 2001
NMP1L 1575

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

RE: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63
TAC No. MA5815

Subject: *Proposed Technical Specification Changes - Charcoal Filter Testing (Generic Letter 99-02) and Control Room Air Treatment System Filter Bank Pressure Drop*

References: *Nine Mile Point Unit 1 Letters dated November 30, 1999 (NMP1L 1485) and dated August 15, 2000 (NMP1L 1527)*

Gentlemen:

Niagara Mohawk Power Corporation (NMPC) hereby transmits an Application for Amendment to Nine Mile Point Unit 1 (NMP1) Operating License DPR-63. This application replaces in its entirety the referenced NMPC submittal letters dated November 30, 1999 and August 15, 2000. NMPC has elected to submit this new application after further examination of NMP1 licensing basis documentation regarding the required Emergency Ventilation System (EVS) charcoal filter adsorption efficiency.

Enclosed are proposed changes to the Technical Specifications (TS) 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 and associated TS Bases pages. The Bases pages are provided for information only and do not require issuance by the NRC. NMPC's determination that the proposed changes meet the criteria for categorical exclusion from performing an environmental assessment is included as Attachment D.

On June 3, 1999, the NRC issued Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," to alert addressees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with the current licensing basis as it relates to the dose

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limits of General Design Criterion 19 of Appendix A to 10CFR Part 50 and Subpart A of 10 CFR Part 100. The GL also requested that all addressees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing, and stated that addressees whose TS do not reference ASTM D3803-1989 should either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

In addition to the charcoal filter testing TS changes, NMPC has determined that a change to a surveillance requirement for the Control Room Air Treatment (CRAT) System is also required. Specifically, TS 4.4.5.a requires the pressure drop across the CRAT System combined high efficiency particulate absolute (HEPA) filters and charcoal adsorber banks to be demonstrated to be less than 6 inches of water at system design flow rate (±10%). Based on revised CRAT System fan resistance curves, NMPC has determined that 1.5 inches of water is the maximum pressure drop across the combined HEPA filters and charcoal adsorber banks that will maintain the minimum required positive pressure in the control room. Although the current TS value of less than 6 inches of water is non-conservative, test data for the last ten years has shown that the pressure drop has not exceeded 1.5 inches of water. Administrative controls are currently in place to maintain the CRAT System combined HEPA filter/charcoal adsorber filter bank pressure drop less than 1.5 inches of water. Additionally, the ability of the CRAT System to maintain a positive pressure in the control room is periodically verified in accordance with TS 4.4.5.g.

The purpose of this submittal is to (1) propose changes to NMP1 TS 3.4.4, "Emergency Ventilation System," and TS 3.4.5, "Control Room Air Treatment System," to require charcoal filter laboratory testing consistent with ASTM D3803-1989 as proposed in GL 99-02; (2) propose a change to TS 4.4.5, "Control Room Air Treatment System," to require the pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to be demonstrated to be less than 1.5 inches of water; and (3) provide supplemental information requested by GL 99-02 and by the NRC Staff in telephone conference calls.

Pursuant to 10CFR50.91(b)(1), NMPC has provided a copy of this license amendment request and the associated analysis regarding no significant hazards consideration to the appropriate state representative.

Very truly yours,

Richard B. Abbott
Vice President Nuclear Engineering

RBA/DEV/cld

Attachments

xc: Mr. H. J. Miller, Regional Administrator, Region I
Ms. M. K. Gamberoni, Section Chief PD-1, Section 1, NRR
Mr. G. K. Hunegs, NRC Senior Resident Inspector
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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 that Sections 3.4.4, "Emergency Ventilation System," 3.4.5, "Control Room Air Treatment System," and 4.4.5, "Control Room Air Treatment System," set forth in Appendix A to that license be amended. The proposed changes have been reviewed in accordance with Section 6.5 of the Technical Specifications (TS).

On June 3, 1999, the NRC issued Generic Letter (GL) 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal. GL 99-02 was issued to alert addressees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with the current licensing basis as it relates to the dose limits of General Design Criterion 19 of Appendix A to 10 CFR Part 50 and Subpart A of 10 CFR Part 100. The GL also requested that all addressees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing, and stated that addressees whose TS do not reference ASTM D3803-1989 should either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

TS 4.4.5 requires the pressure drop across the Control Room Air Treatment (CRAT) System combined high efficiency particulate absolute (HEPA) filters and charcoal adsorber banks to be demonstrated to be less than 6 inches of water at system design flow rate (±10%). Based on revised CRAT System fan resistance curves, NMPC has determined that 1.5 inches of water is the maximum pressure drop across the combined HEPA filters and charcoal adsorber banks that will maintain the minimum required positive pressure in the control room.

The purpose of this submittal is to (1) propose changes to Nine Mile Point Unit 1 TS 3.4.4 and TS 3.4.5 to require charcoal filter laboratory testing consistent with ASTM D3803-1989 as proposed in GL 99-02; (2) propose a change to TS 4.4.5 to require the pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to be demonstrated to be less than 1.5 inches of water; and (3) provide supplemental information requested by GL 99-02 and by the NRC Staff in telephone conference calls.

The proposed changes will not authorize any change in the type of effluents or in the authorized power level of the facility. Supporting information and analyses which

demonstrate that the proposed changes involve no significant hazards consideration 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.

NIAGARA MOHAWK POWER CORPORATION

By _____

Richard B. Abbott
Vice President Nuclear Engineering

Subscribed and Sworn to before me
on this 13 day of March 2001.

_____
NOTARY PUBLIC

Eunice B. Wescott #4964683
Notary Public, State of New York
Qualified in Jefferson County
My Commission Expires on April 2 2002

ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Proposed Changes to Technical Specifications

Replace the existing Technical Specifications pages listed below with the attached revised pages. The revised pages have been retyped in their entirety with marginal markings to indicate changes to the text.

Remove	Insert
174	174
178	178
179	179

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The results of laboratory carbon sample analysis shall show ≥95% radioactive methyl iodide removal when tested in accordance with ASTM D3803-1989 at 30°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. 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.
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.	

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4.5 CONTROL ROOM AIR TREATMENT SYSTEM	4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM
Applicability:	Applicability:
Applies to the operating status of the control room air treatment system.	Applies to the testing of the control room air treatment system.
Objective:	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.	To assure the operability of the control room air treatment system.
Specification:	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.	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 1.5 inches of water at system design flow rate (±10%).
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.	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.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The results of laboratory carbon sample analysis shall show ≥95% radioactive methyl iodine removal when tested in accordance with ASTM D3803-1989 at 30°C and 95% R.H.	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. Fans shall be shown to operate within ±10% design flow.	d. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal absorber bank or after any structural maintenance on the system housing.
e. From and after the date that the control room air treatment system is made or found to be inoperable for any reason, reactor operation or refueling operations is permissible only during the succeeding seven days unless the system is sooner made operable.	e. The system shall be operated at least 10 hours every month.
f. If these conditions cannot be met, reactor shutdown shall be initiated and the reactor shall be in cold shutdown within 36 hours for reactor operations and refueling operations shall be terminated within 2 hours.	f. At least once per operating cycle, not to exceed 24 months, automatic initiation of the control room air treatment system shall be demonstrated.
	g. At least once per operating cycle, not to exceed 24 months, the control room air treatment system shall be shown to maintain a positive pressure within the control room of greater than one sixteenth of an inch (water) relative to areas adjacent to the control room.

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Supporting Information and No Significant Hazards Consideration Analysis

INTRODUCTION

The Nine Mile Point Unit 1 (NMP1) Reactor Building Emergency Ventilation System (EVS) consists of a common supply header taking suction from the normal reactor building ventilation discharge, an electric heater (10 kW) located on a common supply duct, a dual bank of filters for removal of particulates and halogens, a 1,000-W heater and motor-driven fan in each filter bank, and isolation valves at the supply and exhaust of each bank. Each EVS filter bank includes a charcoal filter, with activated and specially impregnated carbon, which was originally designed to be capable of removing 99.0 percent of radioactive methyl iodide and other iodine forms. The EVS is designed to limit the release of radioactive gases to the environment such that resulting doses will be less than the guideline values of 10CFR Part 100 and General Design Criterion (GDC) 19 of Appendix A to 10CFR Part 50 for analyzed accidents.

Technical Specification (TS) 4.4.4 provides the testing requirements for the EVS, including the charcoal filters. TS 4.4.4.b requires that laboratory carbon sample analysis (as indicated in TS 3.4.4.c) 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. TS 3.4.4.c references ANSI N510-1980 testing criteria.

The NMP1 Control Room Air Treatment (CRAT) System consists of a 15kW duct heater, two full-capacity ventilation fans, a high efficiency particulate absolute (HEPA) filter and an activated charcoal filter unit. Operability of the CRAT System ensures that the control room will remain habitable for operations personnel during and following accident conditions. Specifically, adequate radiation protection will be provided such that resulting doses will be less than the guideline values stated in GDC 19.

TS 4.4.5 provides the testing requirements for the CRAT System, including the HEPA filters and charcoal adsorber filter banks. TS 4.4.5.b requires that laboratory carbon sample analysis (as indicated in TS 3.4.5.c) 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. TS 3.4.5.c references the testing criteria provided in ANSI N510-1980.

On June 3, 1999, the NRC issued Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal." GL 99-02 was issued to alert addressees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with the current licensing basis as it relates to the dose limits of GDC 19 of Appendix A to 10CFR Part 50 and Subpart A of 10 CFR Part 100. The GL requested that all addressees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing, and stated that addressees whose TS do not reference ASTM D3803-1989 should either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

In addition, for the CRAT System, TS 4.4.5.a requires the pressure drop across the combined HEPA filters and charcoal adsorber filter banks to be demonstrated to be less than 6 inches of water at system design flow rate (±10%) at least once per operating cycle, or once every 24 months, whichever occurs first. Based on revised CRAT System fan resistance curves, 1.5 inches of water is the maximum combined HEPA filter and charcoal adsorber filter differential pressure that will maintain the required minimum positive pressure in the control room.

The purpose of this submittal is to (1) propose changes to the NMP1 TS consistent with those proposed in GL 99-02; (2) propose a change to NMP1 TS 4.4.5; and (3) provide supplemental information requested by GL 99-02 and by the NRC Staff in telephone conference calls.

EVALUATION

Requested changes to TS 3.4.4.c and 3.4.5.c

The testing requirements of the activated charcoal in the EVS and CRAT System are delineated in TS 4.4.4.b and 4.4.5.b, respectively. Both surveillances, by reference to TS 3.4.4.c and 3.4.5.c, require laboratory analysis of a representative carbon sample in accordance with ANSI N510-1980, which is the current protocol for NMP1. The representative carbon samples, from the CRAT System and the EVS, are currently tested at 80°C [176°F] with a relative humidity of 95 percent. NMPC proposes to revise these TS to require testing in accordance with ASTM D3803-1989 to be consistent with the guidance provided in GL 99-02. In addition, TS 3.4.4.c and 3.4.5.c currently require that the results of laboratory carbon sample analysis be greater than or equal to 90 percent radioactive methyl iodide removal. This 90 percent test criterion will be changed to 95 percent to assure a safety factor of at least 2, consistent with the new testing methodology and calculation provided in GL 99-02.

Analyses of design-basis accidents assume a particular charcoal filter adsorption efficiency when calculating offsite and control room operator doses. Charcoal filter samples are then tested to verify that the filter adsorber efficiency is greater than that assumed in the design-basis accident analysis. The laboratory test acceptance criteria contain a safety factor to assure that the efficiency assumed in the accident analysis is still valid at the end of the operating cycle. The proposed changes to TS 3.4.4.c and 3.4.5.c establish a 95 percent methyl iodide removal efficiency in order to provide confidence that the charcoal

filter efficiency is maintained consistent with the licensing basis accident analysis assumptions.

Various industry guidance exists for determining the frequency of, and the test method for, the laboratory testing of charcoal. NMP1 TS 3.4.4.c and 3.4.5.c reference ANSI N510-1980, "Testing of Nuclear Air-Cleaning Systems." As indicated in GL 99-02, industry standards, including ANSI N510, describe a pre-equilibration period, a challenge period, and an elution period during charcoal testing. During the pre-equilibration (pre-sweep) period, the charcoal is exposed to a flow of air controlled at the test temperature and relative humidity (RH) before the challenge gas is fed through the charcoal. The pre-equilibration period ensures that the charcoal has stabilized at the specified test temperature and RH for a period of time, which results in the charcoal becoming saturated with moisture before it is challenged with methyl iodide. During the challenge period, air at the test temperature and RH with a radio-labeled methyl iodide is injected through the charcoal beds to challenge the capability of the charcoal. During the elution (post-sweep) period, air at the test temperature and RH is passed through the charcoal beds to evaluate the ability of the charcoal to hold the methyl iodide once it is captured.

GL 99-02 also indicates that the latest acceptable methodology for the laboratory testing of the charcoal is ASTM Standard D3803-1989. ASTM D3803-1989 is updated guidance based on an NRC verification and validation effort regarding ASTM D3803-1979. ASTM D3803-1989 has two additional testing periods that are not required by other standards: the stabilization period and the equilibration period. During the stabilization period, the charcoal bed is brought to thermal equilibrium with the test temperature before the start of pre-equilibration. During the equilibration period, air at the test temperature and RH is passed through the charcoal beds to ensure the charcoal adsorbs all the available moisture before the feed period. During this period, the system is more closely monitored than in the pre-equilibration period to ensure that all parameters are maintained within their limits. The essential elements of the ASTM D3803-1989 test are as follows:

- 70 percent or 95 percent RH
- 2-hour minimum thermal stabilization, at 30°C [86°F]
- 16-hour pre-equilibration (pre-sweep) time, with air at 30°C [86°F] and plant-specific RH
- 2-hour equilibration time, with air at 30°C [86°F] and plant-specific RH
- 1-hour challenge, with gas at 30°C [86°F] and plant-specific RH
- 1-hour elution (post-sweep) time, with air at 30°C [86°F] and plant-specific RH

The following discussion provides a comparison between the testing methods delineated in ANSI N510-1980 and ASTM D3803-1989. Concerning the challenge temperature used, ASTM D3803-1989 challenges the representative charcoal samples at 30°C [86°F] rather than the 80°C [176°F] required by ANSI N510-1980. The quantity of water retained by charcoal is dependent on temperature, with less water retained as the temperature rises. The water retained by the charcoal decreases its efficiency in adsorbing other contaminants. Because NMP1 charcoal could be challenged at a temperature closer to 30°C [86°F] rather than 80°C [176°F], the lower temperature test condition of ASTM D3803-1989 (i.e., the proposed testing methodology) will yield more conservative results than would a test performed in accordance with ANSI N510 at 80°C [176°F]. Concerning test temperatures, ASTM D3803-1989 specifies a test temperature of 30°C [86°F] for both

the pre- and post-test sweep. This is also conservative compared to the pre- and post-sweep temperatures currently used during NMP1 charcoal laboratory testing (i.e., 80°C).

In addition, ASTM D3803-1989, as discussed in GL 99-02, provides results that are reproducible compared to current testing practices because it has smaller tolerances on various test parameters, and it requires that the charcoal sample be pre-equilibrated for a much longer period. The longer pre-equilibration time is more conservative because it will completely saturate the representative charcoal sample, which ensures reproducibility of the results by having every charcoal sample begin the test at the same initial conditions.

Based on the above discussion, Niagara Mohawk Power Corporation (NMPC) has proposed changes to TS 3.4.4.c and 3.4.5.c to test the EVS and CRAT System in accordance with ASTM D3803-1989 versus ANSI N510-1980. Testing in accordance with ASTM D3803-1989 (versus ANSI N510) is a conservative change that will result in a more realistic prediction of the capability of the charcoal.

Additional supporting information requested by GL 99-02.

The following information is provided as requested in GL 99-02 and by the NRC Staff in telephone conference calls.

CRAT System

The CRAT System has a charcoal filter bed that is 2 inches deep with a face velocity of 26.8 feet per minute (fpm) at a maximum flow rate of 2500 scfm. The residence time at the 2500 scfm flow rate is 0.37 seconds. The test flow velocity will be 40 fpm per ASTM D3803-1989. The required CRAT System charcoal filter efficiency is 90%, which is the value assumed in control room habitability analyses. A summary of the analysis assumptions and calculated control room doses was submitted to the NRC in NMPC letter NMP1L 1394 dated December 18, 1998.

EVS

The EVS has a charcoal filter bed that is a minimum of 2 1/8 inches deep with a face velocity of 33 fpm at a design flow rate of 1600 scfm. The residence time is 0.3 seconds. The test flow velocity will be 40 fpm per ASTM D3803-1989.

The required EVS charcoal filter efficiency is 90 percent. This value was approved by the NRC in Amendment No. 4 to the NMP1 Facility Operating License, issued by letter dated November 10, 1975. The NRC's safety evaluation that accompanied Amendment No. 4 stated that "The changed Technical Specification requirements will further assure that the EVS filter system will effectively reduce radioactive releases and will further assure that the releases during postulated accident conditions will not exceed the limits of 10 CFR Part 100." The required EVS charcoal filter efficiency value of 90 percent specified in TS 3.4.4.c is supported by the results of analyses documented in NMPC's Technical Supplement to Petition for Conversion from Provisional Operating License to Full-Term Operating License, dated July 1972; Amendment No. 1 thereto, notarized November 21, 1973; and by AEC Safety Evaluation Reports (SERs) dated May 26, 1969 and July 9, 1974. The control room habitability analyses (reference NMPC letter NMP1L 1394 dated December 18, 1998) also assume an EVS charcoal filter efficiency of 90 percent.

The NMP1 Updated Final Safety Analysis Report (UFSAR) Chapter XV accidents that credit operation of the EVS for removal of radioactive iodines (all species) are the Fuel Handling Accident and the Containment Design Basis Accident (i.e., a loss of coolant accident), which are described in UFSAR Sections XV-C.3.0 and XV-C.5.0, respectively. For both accidents, the UFSAR currently states that the assumed EVS charcoal filter efficiency is 99 percent. Appropriate revisions to the UFSAR will be developed to reflect the required EVS charcoal filter efficiency of 90 percent, consistent with License Amendment No. 4, and will be incorporated into the next scheduled UFSAR update pursuant to 10 CFR 50.71(e).

Requested change to TS 4.4.5.a

The pressure drop testing requirements for the combined HEPA filter and charcoal adsorber banks in the CRAT System are delineated in TS 4.4.5.a. This surveillance requires the pressure drop across the combined HEPA filter and charcoal adsorber banks to be demonstrated to be less than 6 inches of water at system design flow rate (±10%). NMPC is proposing to change this pressure drop limit to less than 1.5 inches of water.

Analyses of design-basis accidents assume a minimum positive pressure in the control room to maintain habitability for operations personnel during and following accident conditions. An increase in the pressure drop across the HEPA filter/charcoal adsorber banks results in a reduction in control room pressure. With the current configuration of the CRAT System, the minimum air flow required to maintain a positive pressure in the control room of 0.0625 inches of water corresponds to a maximum combined HEPA filter/charcoal adsorber bank pressure drop of 1.5 inches of water. Although the TS value of 6 inches of water is non-conservative, test data for the last ten years has shown that the pressure drop has not exceeded 1.5 inches of water. Administrative controls are currently in place to maintain the CRAT System combined HEPA filter/charcoal adsorber filter bank pressure drop less than 1.5 inches of water. Additionally, the ability of the CRAT System to maintain a positive pressure in the control room is periodically verified in accordance with TS 4.4.5.g.

CONCLUSION

Charcoal filter samples are tested to determine whether the filter adsorber efficiency is greater than that assumed in the design-basis accident analysis. The proposed changes to the testing method provide a more realistic prediction of the capability of the charcoal and are consistent with the recommended changes proposed in GL 99-02. Bases have been provided to support the required filter efficiency values included in the changes to TS 3.4.4 and 3.4.5. In addition, the proposed change to limit the pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to less than 1.5 inches of water will assure the system is capable of maintaining the required minimum positive pressure in the control room complex with either CRAT System fan in service.

Based on the above evaluation and associated conclusions, NMPC believes there is reasonable assurance that the proposed TS changes will not adversely affect the health and safety of the public and will not be inimical to the common defense and security.

NO SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS

10CFR50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis using the standards in 10CFR50.92 concerning the issue of no significant hazards consideration. According to 10CFR50.92(c), a proposed amendment to an operating license involves no significant hazards 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 of different kind of accident from any accident previously evaluated; or

3. Involve a significant reduction in a margin of safety.

NMPC has evaluated this proposed amendment pursuant to 10CFR50.91 and has determined that it involves no significant hazards consideration.

The following analyses have 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 TS changes will require testing the EVS and CRAT System charcoal filters in accordance with ASTM D3803-1989 versus ANSI N510-1980, and will revise the allowable pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to less than 1.5 inches of water at system design flow rate (±10%).

Neither the EVS nor the CRAT System involve initiators or precursors to an accident previously evaluated as both systems perform mitigative functions in response to an accident. Failure of either system would result in the inability to perform its mitigative function but would not increase the probability of an accident. Therefore, the proposed changes will not involve a significant increase in the probability of an accident previously evaluated.

The NMP1 EVS is designed to limit the release of radioactive gases to the environment such that resulting doses will be less than the guideline values of 10CFR100 and GDC 19 for analyzed accidents. The CRAT System is designed to limit doses to control room operators to less than the guideline values of GDC 19. Both systems contain charcoal filters that require laboratory carbon sample analysis to be performed in accordance ANSI N510-1980 as currently required by TS. Charcoal filter samples are tested to determine whether the filter adsorber efficiency is greater than that assumed in the design basis accident analysis. The proposed TS changes to test the charcoal material in accordance with ASTM D3803-1989 (versus ANSI N510) will assure the ability of the subject systems to perform their intended function by providing a more stringent test of the capability of the charcoal filters.

The 90 percent EVS charcoal filter efficiency value currently specified in TS 3.4.4.c has previously been reviewed and approved by the NRC in Amendment No. 4 to the NMP1 Facility Operating License. It is supported by the results of analyses performed by NMPC and by evaluations documented in AEC SERs, for both the Fuel Handling Accident and the Containment Design Basis Accident. The proposed change to TS 3.4.4.c and 3.4.5.c. establishes a 95 percent methyl iodide removal efficiency to provide a safety factor of 2, consistent with the recommendations of GL 99-02. This change does not alter the results of the accident dose consequence analyses; rather, it provides confidence that the charcoal filter efficiency is maintained consistent with the licensing basis accident analysis assumptions to the end of the operating cycle.

The CRAT System contains HEPA filters and activated charcoal adsorber banks that are currently required by TS to have a combined pressure drop across them of less than 6 inches of water. The proposed TS change to require a combined pressure drop of less than 1.5 inches of water will assure the capability of the CRAT System to maintain the required minimum positive pressure in the control room complex. This will assure that the calculated doses to control room personnel are not affected and remain within the guideline values of GDC 19.

Based on the above discussions, it is concluded that the proposed TS changes will not involve a significant increase in the consequences of an accident previously evaluated.

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.

The proposed TS changes will require testing the EVS and CRAT System charcoal filters in accordance with ASTM D3803-1989 versus ANSI N510-1980, and will revise the allowable pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to less than 1.5 inches of water at system design flow rate (±10%). The changes will not involve placing these systems in a new configuration or operating the systems in a different manner that could result in a new or different kind of accident. Testing in accordance with the ASTM D3803-1989 standard will assure the ability of the subject systems to perform their intended function by providing a more stringent test of the capability of the charcoal filters. The proposed change to limit the pressure drop across the CRAT System HEPA filters and charcoal adsorber banks to 1.5 inches of water will assure that the system is capable of maintaining the required minimum positive pressure in the control room complex. This, in turn, will assure habitability for control room personnel during and following accident conditions. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any previously evaluated.

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.

The proposed TS changes will not adversely affect the performance characteristics of the EVS or CRAT System and will not affect the ability of these systems to perform their intended functions. Testing of the charcoal material in accordance with ASTM D3803-1989 (versus ANSI N510-1980) will assure the ability of the subject systems to perform their intended functions by providing a more stringent test of the capability of the charcoal filters. Establishing a charcoal filter methyl iodide removal efficiency of 95 percent will

provide a factor of safety of 2 (consistent with the recommendations of GL 99-02), thereby providing confidence that the charcoal filter efficiency is maintained consistent with the licensing basis accident analysis assumptions to the end of the operating cycle. Reducing the allowable pressure drop across the CRAT System HEPA filter/charcoal filter banks from 6 inches to 1.5 inches of water assures that the system is capable of maintaining the required minimum positive pressure in the control room complex, consistent with control room habitability analyses. None of these changes adversely affects the fission product barriers or plant safety/operational limits. Therefore, it is concluded that the proposed TS changes do 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 Technical Specifications and Bases

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The results of laboratory carbon sample analysis shall show ≥~~90~~ 95% radioactive methyl iodide removal when tested in accordance with ~~ANSI N510-1980~~ ASTM D3803-1989 at ~~80~~ 30°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. 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.
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.	

BASES FOR 3.4.4 AND 4.4.4 EMERGENCY VENTILATION SYSTEM

The emergency ventilation system is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions. Both emergency ventilation system fans are designed to automatically start upon high radiation in the reactor building ventilation duct or at the refueling platform and to maintain the reactor building pressure to the design negative pressure so as to minimize in-leakage. Should one system fail to start, the redundant system is designed to start automatically. Each of the two fans has 100 percent capacity.

High efficiency particulate absolute (HEPA) filters are installed before and after the charcoal adsorbers to minimize potential release of particulates to the environment and to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of at least 99 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 90 percent ~~for expected accident conditions~~. If the efficiencies of the HEPA filters and charcoal adsorbers are as specified, the resulting doses will be less than the 10CFR100 guidelines for the accidents analyzed. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers.

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and General Design Criterion 19

Only one of the two emergency ventilation systems is needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is no immediate threat to the containment system performance and reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is brought to a condition where the emergency ventilation system is not required.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Heater capability and pressure drop should be determined at least once per operating cycle to show system performance capability.

ASTM D3803-1989

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber efficiency test should allow for charcoal sampling to be conducted using an ~~ANSI/ASME N510-1980~~ approved method. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent ~~qualified in~~ Table 5-1 of ANSI 509-1980.

which is derived from applying a safety factor of 2 to the charcoal filter efficiency of 90 percent assumed in analyses of design basis accidents.

meeting the physical property specifications of

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4.5 CONTROL ROOM AIR TREATMENT SYSTEM	4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM
Applicability:	Applicability:
Applies to the operating status of the control room air treatment system.	Applies to the testing of the control room air treatment system.
Objective:	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.	To assure the operability of the control room air treatment system.
Specification:	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.	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 1.5 inches of water at system design flow rate (±10%).
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.	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.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The results of laboratory carbon sample analysis shall show ≥~~90~~ 95% radioactive methyl iodine removal when tested in accordance with ~~ANSI N510-1980~~ ASTM D3803-1989 at ~~80~~ 30°C and 95% R.H.	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. Fans shall be shown to operate within ±10% design flow.	d. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal absorber bank or after any structural maintenance on the system housing.
e. From and after the date that the control room air treatment system is made or found to be inoperable for any reason, reactor operation or refueling operations is permissible only during the succeeding seven days unless the system is sooner made operable.	e. The system shall be operated at least 10 hours every month.
f. If these conditions cannot be met, reactor shutdown shall be initiated and the reactor shall be in cold shutdown within 36 hours for reactor operations and refueling operations shall be terminated within 2 hours.	f. At least once per operating cycle, not to exceed 24 months, automatic initiation of the control room air treatment system shall be demonstrated.
	g. At least once per operating cycle, not to exceed 24 months, the control room air treatment system shall be shown to maintain a positive pressure within the control room of greater than one sixteenth of an inch (water) relative to areas adjacent to the control room.

BASES FOR 3.4.5 AND 4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM

The control room air treatment system is designed to filter the control room atmosphere for intake air. A roughing filter is used for recirculation flow during normal control room air treatment operation. The control room air treatment system is designed to maintain the control room pressure to the design positive pressure (one-sixteenth inch water) so that all leakage should be out leakage. The control room air treatment system starts automatically upon receipt of a LOCA (high drywell pressure or low-low reactor water level) or Main Steam Line Break (MSLB) (high steam flow main-steam line or high temperature main-steam line tunnel) signal. The system can also be manually initiated.

High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorber. The charcoal adsorbers are installed to reduce the potential intake of radioiodine to the control room. The in-place test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of at least 99 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 90 percent ~~for expected accident conditions~~. If the efficiencies of the HEPA filter and charcoal adsorbers are as specified, adequate radiation protection will be provided such that resulting doses will be less than the allowable levels stated in Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10CFR Part 50. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers.

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If the system is found to be inoperable, there is no immediate threat to the control room and reactor operation or refueling operation may continue for a limited period of time while repairs are being made. If the makeup system cannot be repaired within seven days, the reactor is shutdown and brought to cold shutdown within 36 hours or refueling operations are terminated.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than ~~six~~ 1.5 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once per operating cycle to show system performance capability.

The frequency of tests and sample analysis are necessary to show the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber efficiency test should allow for charcoal sampling to be conducted using an ~~ANSI/ASME N510-1980~~ ASTM D3803-1989 approved method. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent ~~qualified according to~~ meeting the physical property specifications of Table 5-1 of ANSI 509-1980. The replacement charcoal for the adsorber tray removed for the test should meet the same adsorbent quality. Any HEPA filters found defective shall be replaced with filters qualified pursuant to ANSI 509-1980.

which is derived from applying a safety factor of 2 to the charcoal filter efficiency of 90 percent assumed in analyses of design basis accidents.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Eligibility for Categorical Exclusion from Performing an Environmental Assessment

10CFR51.22 provides 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 a significant hazards consideration, and there will be no significant change in the types or a significant increase in the amounts of any effluents that may be released offsite; nor will there be any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 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 this license amendment application.