

June 11, 1985

Docket No. 50-220

Mr. B. G. Hooten
Executive Director, Nuclear Operations
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Dear Mr. Hooten:

The Commission has issued the enclosed Amendment No. 73 to Facility Operating License No. DPR-63 for the Nine Mile Point Nuclear Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your request dated October 1, 1984.

The revision to the Technical Specifications adds Limiting Conditions for Operation and surveillance requirements for the Control Room Air Treatment system, updates the testing requirements for the absorber filters that are a part of the Control Room Air Treatment and the Emergency Ventilation system, and changes the testing frequencies for the above mentioned systems.

The Safety Evaluation addresses the need to improve the provisions for assuring that the Control Room Air Treatment system achieves its design pressure. We understand that you will provide a change to the Technical Specifications following the modification planned in the 1986 refueling outage to address this issue.

A copy of the Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

Robert A. Hermann, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:

1. Amendment No. 73 to License No. DPR-63
2. Safety Evaluation

cc w/enclosures:

See next page

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Mr. B. G. Hooten
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station, Unit No. 1

cc:

Troy B. Conner, Jr., Esquire
Conner & Wetterhahn
Suite 1050
1747 Pennsylvania Avenue, N. W.
Washington, D. C. 20006

Frank R. Church, Supervisor
Town of Scriba
R. D. #2
Oswego, New York 13126

Niagara Mohawk Power Corporation
ATTN: Mr. Thomas Perkins
Plant Superintendent
Nine Mile Point Nuclear Station
Post Office Box 32
Lycoming, New York 13093

Resident Inspector
U. S. Nuclear Regulatory Commission
Post Office Box 126
Lycoming, New York 13093

John W. Keib, Esquire
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Thomas A. Murley
Regional Administrator
Region I Office
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Jay Dunkleberger
Division of Policy Analysis
and Planning
New York State Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223



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

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 73
License No. DPR-63

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated October 1, 1984 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-63 is hereby amended to read as follows:

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(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 73, is hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 11, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 73

FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Revise the Appendix A Technical Specifications by removing and inserting the following pages:

<u>Existing Page</u>	<u>Revised Page</u>
173	173
174	174
175	175
176	176
177	177
178	178
178a	178a
178b	178b
178c	178c
188	188
190	190
---	190a
---	232d
---	232e

LIMITING CONDITION FOR OPERATION

3.4.4 EMERGENCY VENTILATION SYSTEM

Applicability:

Applies to the operating status of the emergency ventilation system.

Objective:

To assure the capability of the emergency ventilation system to minimize the release of radioactivity to the environment in the event of an incident within the primary containment or reactor building.

Specification:

- a. Except as specified in Specification 3.4.4e below, both circuits of the emergency ventilation system and the diesel generators required for operation of such circuits shall be operable at all times when secondary containment integrity is required.
- b. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show $\geq 99\%$ DOP removal and $\geq 99\%$ halogenated hydrocarbon removal when tested in accordance with ANSI N.510-1980.

SURVEILLANCE REQUIREMENT

4.4.4 EMERGENCY VENTILATION SYSTEM

Applicability:

Applies to the testing of the emergency ventilation system.

Objective:

To assure the operability of the emergency ventilation system.

Specification:

Emergency ventilation system surveillance shall be performed as indicated below:

- a. At least once per operating cycle, not to exceed 24 months, the following conditions shall be demonstrated:
 - (1) Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at the system rated flow rate (+ 10%).
 - (2) Operability of inlet heater at rated power when tested in accordance with ANSI N.510-1980.

LIMITING CONDITION FOR OPERATION

- c. The results of laboratory carbon sample analysis shall show $\geq 90\%$ 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 $\pm 10\%$ design flow.
- e. 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 and fuel handling 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.
- 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

SURVEILLANCE REQUIREMENT

- g. At least once per operating cycle, not to exceed 24 months, automatic initiation of each branch of the emergency ventilation system shall be demonstrated.
- h. At least once per operating cycle, not to exceed 24 months, manual operability of the bypass valve for filter cooling shall be demonstrated.
- i. When one circuit of the emergency ventilation system becomes inoperable all active components in the other emergency ventilation circuit shall be demonstrated to be operable within 2 hours and daily thereafter.

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.

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.

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 procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. 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.

BASES FOR 3.4.4 AND 4.4.4 EMERGENCY VENTILATION SYSTEM

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.

All elements of the heater should be demonstrated to be functional and operable during the test of heater capacity. Operation of the inlet heater will prevent moisture buildup in the filters and adsorber system.

With doors closed and fan in operation, DOP aerosol shall be sprayed externally along the full linear periphery of each respective door to check the gasket seal. Any detection of DOP in the fan exhaust shall be considered an unacceptable test result and the gaskets repairs and test repeated.

If significant painting, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational use. The determination of significant shall be made by the operator on duty at the time of the incident. Knowledgeable staff members should be consulted prior to making this determination.

Demonstration of the automatic initiation capability and operability of filter cooling is necessary to assure system performance capability. If one emergency ventilation system is inoperable, the other system must be tested daily. This substantiates the availability of the operable system and thus reactor operation or refueling operation may continue during this period of time.

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 containment integrity is required.
- b. The results of the in-place cold DOP and halogenated hydrocarbon test design flows on HEPA filters and charcoal adsorber banks shall show $\geq 99\%$ DOP removal and $\geq 99\%$ 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.

LIMITING CONDITION FOR OPERATION

Specification:

- c. The results of laboratory carbon sample analysis shall show $\geq 90\%$ 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 $\pm 10\%$ design flow.
- 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.
- 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.

Amendment No. 73

SURVEILLANCE REQUIREMENT

Specification:

- 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 absorber bank or after any structural maintenance on the system housing.
- e. The system shall be operated at least 10 hours every month.
- f. At least once per operating cycle, not to exceed 24 months, automatic initiation of the control room air treatment system shall be demonstrated.

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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 automatically start upon receipt of a high radiation signal from one of the two radiation monitors located on the ventilation intake and to maintain the control room pressure to the design positive pressure so that all leakage should be out leakage.

High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. 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 filters 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.

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 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. In addition, air intake radiation monitors will be calibrated and functionally tested each operating cycle, not to exceed 24 months, to verify system performance.

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 procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified according to Table 5-1 of ANSI 509-1980. The replacement charcoal for the adsorber tray removed for the test should

BASES FOR 3.4.5 AND 4.4.5 CONTROL ROOM AIR TREATMENT SYSTEM (Continued)

meet the same adsorbent quality. Any HEPA filters found defective shall be replaced with filters qualified pursuant to ANSI 509-1980.

Operation of the system for 10 hours every month will demonstrate operability of the filters and adsorber system and remove excessive moisture built up on the adsorber.

If significant painting, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis shall be performed as required for operational use. The determination of significant shall be made by the operator on duty at the time of the incident. Knowledgeable staff members should be consulted prior to making this determination.

LIMITING CONDITION FOR OPERATION

3.6.2 PROTECTIVE INSTRUMENTATION

Applicability:

Applies to the operability of the plant instrumentation that performs a safety function.

Objective:

To assure the operability of the instrumentation required for safe operation.

Specification:

- a. The set points, minimum number of trip systems, and minimum number of instrument channels that must be operable for each position of the reactor mode switch shall be as given in Tables 3.6.2a to 3.6.2m.

If the requirements of a table are not met, the actions listed below for the respective type of instrumentation shall be taken.

- (1) Instrumentation that initiates scram - control rods shall be inserted, unless there is no fuel in the reactor vessel.

SURVEILLANCE REQUIREMENT

4.6.2 PROTECTIVE INSTRUMENTATION

Applicability:

Applies to the surveillance of the instrumentation that performs a safety function.

Objective:

To verify the operability of protective instrumentation.

Specification:

- a. Sensors and instrument channels shall be checked, tested and calibrated at least as frequently as listed in Tables 4.6.2a to 4.6.2m.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

(8) Off-Gas and Vacuum Pump Isolation - The respective system shall be isolated or the instrument channel shall be considered inoperable and Specification 3.6.1 shall be applied.

(9) Diesel Generator Initiation - The diesel generator shall be considered inoperable and Specification 3.6.3 shall be applied.

(10) Emergency Ventilation Initiation - The emergency ventilation system shall be considered inoperable and Specification 3.4.4 shall be applied.

(11) High Pressure Coolant Injection Initiation - The high pressure coolant injection system shall be considered inoperable and Specification 3.1.8.c shall be applied.

(12) Primary Containment Monitoring - The primary containment monitoring instrumentation shall be considered inoperable and Specification 3.3.8 shall be applied.

(13) Control Room Ventilation - The control room ventilation system shall be considered inoperable and Specification 3.4.5 shall be applied.

b. During operation with a Maximum Total Peaking Factor (MTPF) greater than the design value, either:

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

- (1) The APRM scram and rod block settings shall be reduced to the values given by the equations in Specification 2.1.2.a; or
- (2) The power distribution shall be changed such that the MTPF no longer exceeds the design value.

Table 3.6.2m

CONTROL ROOM AIR TREATMENT SYSTEM INITIATION

Limiting Condition for Operation

<u>Parameter</u>	<u>Minimum No. of Tripped or Operable Trip Systems</u>	<u>Minimum No. of Operable Instrument Channels per Operable Trip System</u>	<u>Set Point</u>	<u>Reactor Mode Switch Position in Which Function Must Be Operable</u>			
				Shutdown	Refuel	Startup	Run
(1) High Radiation Ventilation Intake	1	1	≤ 1000 CPM		x	x	x

Table 4.6.2m

CONTROL ROOM AIR TREATMENT SYSTEM INITIATION

Surveillance Requirement

<u>Parameter</u>	<u>Sensor Check</u>	<u>Instrument Channel Test</u>	<u>Instrument Channel Calibration</u>
(1) High Radiation Ventilation Intake	Once/shift	Once per quarter	Once each operating cycle not to exceed 24 months



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 73 TO FACILITY OPERATING LICENSE NO. DPR-63

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-220

1.0 INTRODUCTION

By application dated October 1, 1984, Niagara Mohawk Power Corporation (the licensee) requested an amendment to Facility Operating License No. DPR-63 for Nine Mile Point Nuclear Power Station, Unit No. 1. The amendment request changes the section of the Technical Specifications pertaining to Limiting Conditions for Operations, surveillance requirements and supporting bases for the Emergency Ventilation and Control Room Air Treatment systems and their associated instrumentation. The majority of the proposed changes are the result of modifications made to the Control Room Air Treatment System to resolve NUREG-0737, Item II.D.3.4, "Control Room Habitability."

2.0 EVALUATION

This application for amendment to the operating license by Niagara Mohawk Power Corporation (Nine Mile Point Nuclear Station, Unit No. 1) requests that the Technical Specifications relating to the Control Room Air Treatment System be revised to reflect recent modifications improving that system, to specify surveillance tests according to ANSI N.510-1980 rather than N.510-1975, and to adjust the test frequency to match the present refueling cycle. These revisions are to be made to Sections 3/4.4.4, 3/4.4.5, and 3/4.6.2 of the Technical Specifications. The proposed changes are consistent with the accident analysis described earlier in the May 21, 1984 Safety Evaluation (SE) for TMI Item II.D.3.4. A copy of that SE is attached. Therefore, the staff finds the proposed revisions to the Nine Mile Point Unit No. 1 Technical Specifications acceptable.

However, during the course of the review a question arose regarding an inconsistency between the bases and section 3.4.5 of the Technical Specification. In particular, the bases for Section 3.4.5 state that the Control Room Air Treatment System is to "maintain the control room pressure

to the design positive pressure so that all leakage should be out-leakage." Section 3.4.5, however, does not contain any provision for assuring that the system is capable of achieving design pressure. This matter was discussed with the licensee in a telecon on April 9, 1985. The licensee's licensing representative stated that Operational Test Procedure 210 was performed to assure the control room maintains a positive pressure relative to the surrounding areas with the fans operating within $\pm 10\%$ of their design flow. Further, the licensee has committed to perform additional modifications to the Control Room Air Treatment System to enhance its operation at the Spring 1986 refueling outage. Following the modifications, the licensee has committed to provide a revision to the Technical Specification containing a test with a quantitative provision for positive pressure relative to outside air with the fans operating within $\pm 10\%$ of their design flow. Considering the test procedure and the licensee's commitment, the staff finds this approach acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

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

4.0 CONCLUSION

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

Principal Contributors: J. Read and R. Hermann

Dated: June 11, 1985



ATTACHMENT

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

May 21, 1984

Docket No. 50-220

Mr. B. G. Hooten
Executive Director, Nuclear Operations
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Dear Mr. Hooten:

SUBJECT: SAFETY EVALUATION, NUREG-0737, Item III.D.3.4.,
"Control Room Habitability"

Re: Nine Mile Point Nuclear Station, Unit No. 1

Enclosed is a Safety Evaluation related to the subject item. Considering the inclusion of the modifications committed to by you, we conclude that the design meets the criteria for TMI III.D.3.4. set forth in NUREG-0737 and is acceptable. Therefore, this item is considered closed.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. Vassallo".

Domenic B. Vassallo, Chief
Operating Reactor Branch #2
Division of Licensing

Enclosure:
As stated

cc w/enclosure
See next page

Mr. B. G. Hooten
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station, Unit No. 1

cc:

Troy B. Conner, Jr., Esquire
Conner & Wetterhahn
Suite 1050
1747 Pennsylvania Avenue, N. W.
Washington, D. C. 20006

Robert P. Jones, Supervisor
Town of Scriba
R. D. #4
Oswego, New York 13126

Niagara Mohawk Power Corporation
ATTN: Mr. Thomas Perkins
Plant Superintendent
Nine Mile Point Nuclear Station
Post Office Box 32
Lycoming, New York 13093

U. S. Environmental Protection
Agency
Region II Office
Regional Radiation Representative
26 Federal Plaza
New York, New York 10007

Resident Inspector
U. S. Nuclear Regulatory Commission
Post Office Box 126
Lycoming, New York 13093

John W. Keib, Esquire
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Thomas A. Murley
Regional Administrator
Region I Office
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Jay Dunkleberger
Division of Policy Analysis
and Planning
New York State Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-220

NUREG-0737 ITEM III.D.3.4., "CONTROL ROOM HABITABILITY"

Position

In accordance with Task Action Plan item III.D.3.4, "Control Room Habitability," licensees shall assure that control room operators will be adequately protected against the effects of accidental releases of toxic and radioactive gases and that the nuclear power plant can be safely operated or shut down under design basis accident conditions (Criterion 19, "Control Room," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50).

Staff Evaluation

In response to the requirements of the Task Action Plan as promulgated in NUREG-0737, the licensee submitted an evaluation of its existing control room habitability systems and a proposal for modifying those systems, dated December 31, 1980. Pacific Northwest Laboratories (PNL), under contract to the staff (FIN #B2323), evaluated this submittal using the guidance and criteria of Standard Review Plan (NUREG-0800) sections 2.2.1, 2.2.2, 2.2.3 and 6.4, and Regulatory Guides 1.78 and 1.95. The attached PNL letter report outlines the results of this evaluation. The PNL report, however, indicated that the HVAC systems appeared to have adequate redundancy to meet single failure criteria and this conclusion

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was subsequently found to be incorrect and additional discussions were held with the licensee.

Following the discussions between the licensee and the staff, the licensee agreed, in a letter dated March 11, 1983, to re-examine its control room habitability system design. In a further submittal, dated March 28, 1983, the licensee committed to make modifications sufficient to meet the single-failure criterion. These modifications consist of the installation of redundant emergency intake dampers, redundant normal intake isolation dampers, redundant cooling water coils, and redundant radiation monitors in the normal intake. The radiation monitors are to provide a signal to automatically isolate the normal intake and initiate the emergency ventilation system. In addition, the licensee has committed to provide additional self-contained breathing apparatus within the control room to meet single failure criteria of Reg. Guide 1.78.

The staff has reviewed the licensee's submittal, and has concluded that the modifications committed to by the licensee are sufficient to meet the staff's single-failure criterion.

The staff also reviewed the recalculations of the control room operator doses, which were submitted by the licensee on January 31, 1984 and March 19, 1984. The staff's conclusion is that control room operator doses following design basis accidents would be within GDC-19 guidelines and are acceptable.

In reaching its conclusions, the staff reviewed the PNL findings as well as the licensee submittals in accordance with NUREG-0737. Based upon this review and the implementation of the licensee's commitments as outlined above, the staff finds that the control room habitability systems are acceptable. The staff concludes that these systems will provide safe, habitable conditions within the control room under both normal and accident radiation and toxic gas conditions, including loss-of-coolant accidents. The staff also concludes that occupancy can be maintained under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. Therefore, with the inclusion of the previously identified modifications, the design meets the criteria of item III.D.3.4 of NUREG-0737 and is acceptable.

Principal Contributor: K. Dempsey