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Mr. Edson G. Case

FROM:

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Washington, D. C.  
E. B. Thomas, Jr.

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LETTER

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## DESCRIPTION

## ENCLOSURE

PLANT NAME:

Nine Mile Point Unit No. 1

RJL

(1-P)

Amdt. to OL/change to tech specs..notorized  
5/17/77...relating to instrumentation used to  
monitor drywell suppression chamber differen-  
tial pressure & suppression chamber water  
level.....

ACKNOWLEDGED

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(40 cys rec'd)

## SAFETY

## FOR ACTION/INFORMATION

## ENVIRO

ASSIGNED AD:

BRANCH CHIEF:

PROJECT MANAGER:

LIC.-ASST. :

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PROJECT MANAGER:

LIC. ASST. :

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ACRS 16 CYS HOLDING SENT AS CAT B

NAT. LAB:

REG V. IE

LA PDR

CONSULTANTS:

BROOKHAVEN NAT. LAB.

ULRIKSON (ORNL)

771400087



LAW OFFICES OF  
LEBOEUF, LAMB, LEIBY & MACRAE  
1757 N STREET, N.W.  
WASHINGTON, D. C. 20036

TELEPHONE 202 457-7500

CABLE ADDRESS

LEBWIN, WASHINGTON, D. C.

TELEX: 440274

RANDALL J. LeBOEUF, JR. 1929-1975

ADRIAN C. LEIBY 1952-1976

OF COUNSEL

ARVIN E. UPTON

140 BROADWAY

NEW YORK, N.Y. 10005

TELEPHONE 212 269-1100

CABLE ADDRESS

LEBWIN, NEW YORK

TELEX: 423416

LEON A. ALLEN, JR.  
JOSEPH E. BACHOLDER, III  
ERNEST S. BALLARD, JR.  
G. S. PETER BERGEN  
GEOFFREY D. C. BEST  
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EUGENE B. THOMAS, JR.\*  
LEONARD M. TROSTEN\*  
HARRY H. VOIGT\*  
H. RICHARD WACHTEL  
GERARD P. WATSON

May 19, 1977



\*RESIDENT PARTNERS WASHINGTON OFFICE  
\*ADMITTED TO THE DISTRICT OF COLUMBIA BAR

Mr. Edson G. Case  
Acting Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

REGULATORY DOCUMENT FILE COPY

Re: Niagara Mohawk Power Corporation  
Nine Mile Point Nuclear Station  
Unit No. 1--Docket No. 50-220

Dear Mr. Case:

As counsel for Niagara Mohawk, I enclose the following:

(1) Three (3) originals and nineteen (19) copies of an application to amend Operating License No. DPR-63; and

(2) Forty (40) copies each of two (2) documents entitled Attachments A and B which set forth the technical bases for the requested change in the Technical Specifications.

The requested change in the Technical Specifications relates to instrumentation used to monitor drywell suppression chamber differential pressure and suppression chamber water level.

Very truly yours,

LEBOEUF, LAMB, LEIBY & MACRAE

By

E. B. Thomas, Jr.  
Eugene B. Thomas, Jr.  
Partner

Enclosures

771400087

LABORATORY AND FIELD RESEARCH

WILSON, J. W.

RESEARCH ASSISTANT

1940-1941

1941-1942

1942-1943

1943-1944

1944-1945

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

NIAGARA MOHAWK POWER CORPORATION )  
(Nine Mile Point Nuclear Station )  
Unit No. 1) )

Docket No. 50-220

APPLICATION FOR AMENDMENT

TO

OPERATING LICENSE

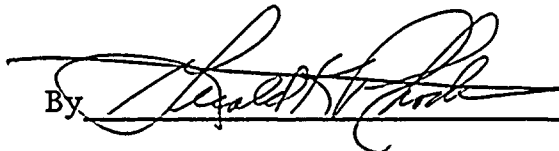
Pursuant to Section 50.90 of the regulations of the Nuclear Regulatory Commission, Niagara Mohawk Power Corporation, holder of Facility Operating License No. DPR-63, hereby requests that Table 3.3.4 of the Technical Specifications and Bases set forth in Appendix A to that License be amended. This proposed change has been concurred with by the Site Operations Review Committee and Safety Review and Audit Board.

The proposed Technical Specification change is set forth in Attachment A to this application. Supporting Information, which demonstrates that the proposed change does not involve a significant hazards consideration, is set forth in Attachment B. The proposed change would not authorize any change in the types or any increase in the amounts of effluents or any change in the authorized power level of the facility.



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   
Gerald K. Rhode  
Vice President-Engineering

Subscribed and sworn to before  
me this 17<sup>th</sup> day of May, 1977.

  
NOTARY PUBLIC

HAZEL J. CARRICK  
Notary Public in the State of New York  
Qualified in Onon. Co. No. 4524460  
My Commission Expires March 30, 1978

#4



Attachment A

Niagara Mohawk Power Corporation

License No. DPR-63

Docket No. 50-220

Proposed Changes to Facility Operating License

Attached are revisions to Pages 188, 190, 236 and 237. Also attached are additional Pages 232b and 232c.



## 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 3.6.2l.

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.

## 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 4.6.2l.



# 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.

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

(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 3.6.21

PRIMARY CONTAINMENT MONITORINGLimiting Condition For Operation

<u>Parameter</u>	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels Per Operable Trip System	<u>Set Point</u>	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
(1) Drywell-Suppression Chamber Differential Pressure	2	1	Figure 3.3.8			X	X
(2) Suppression Chamber Water Level	2	1	Specification 3.3.2			X	X





Table 4.6.21

PRIMARY CONTAINMENT MONITORINGSurveillance Requirement

<u>Parameter</u>	<u>Sensor Check</u>	<u>Instrument Channel Test</u>	<u>Instrument Channel Calibration</u>
(1) Drywell-Suppression Chamber Differential Pressure	once/day		Once Per Operating Cycle
(2) Suppression Chamber Water Level	once/day		Once Per Operating Cycle



## BASES FOR 3.6.2 AND 4.6.2 PROTECTIVE INSTRUMENTATION

The set points on the generator load rejection and turbine stop valve closure scram trips are set to anticipate and minimize the consequences of turbine trip with failure of the turbine bypass system as described in the bases for Specification 2.1.2. Since the severity of the transients is dependent on the reactor operating power level, bypassing of the scrams below the specified power level is permissible.

The primary containment monitoring system is provided to alert the operator of conditions which could reduce safety margins during a postulated Loss of Coolant Accident. Appropriate operator corrective action is described in Specification 3.3.8, should Limiting Conditions for Operation be exceeded. This monitoring instrumentation does not automatically initiate engineered safeguards systems.

Although the operator will set the setpoints at the values indicated in Tables 3.6.2.a-1, the actual values of the various set points can differ appreciably from the value the operator is attempting to set. The deviations include inherent instrument error, operator setting error and drift of the set point. These errors are compensated for in the transient analyses by conservatism in the controlling parameter assumptions as discussed in the bases for Specification 2.1.2. The deviations associated with the set points for the safety systems used to mitigate accidents have negligible effect on the initiation of these systems. These safety systems have initiation times which are orders of magnitude greater than the difference in time between reaching the nominal set point and the worst set point due to error. The maximum allowable set point deviations are listed below:

### Neutron Flux

.APRM, +2.7% of rated neutron flux

IRM, +2.5% of rated neutron flux

Recirculation Flow,  $\pm 1\%$  of rated recirculation flow

Reactor Pressure,  $\pm 15.8$  psig

Containment Pressure,  $\pm 0.053$  psig

Reactor Water Level,  $\pm 2.6$  inches of water

Main Steam Line Isolation Valve Position,  $\pm 2.5\%$  of stem position

Scram Discharge Volume, + 0 and - 1 gallon

Condenser Low Vacuum,  $\pm 0.5$  inches of mercury



## BASES FOR 3.6.2 AND 4.6.2 PROTECTIVE INSTRUMENTATION

High Flow-Main Steam Line,  $\pm 1$  psid

High Flow-Emergency Cooling Line,  $\pm 1$  psid

High Area Temperature-Main Steam Line,  $\pm 10^\circ\text{F}$

High Area Temperature-Clean-up and Shutdown,  $\pm 6^\circ\text{F}$

High Radiation-Main Steam Line,  $\pm 100\%$  and  $-50\%$  of set point value

High Radiation-Emergency Cooling System Vent,  $\pm 100\%$  and  $-50\%$   
of set point

High Radiation-Reactor Building Vent,  $\pm 100\%$  and  $-50\%$  of set point

High Radiation-Refueling Platform,  $\pm 100\%$  and  $-50\%$  of set point

High Radiation-Offgas Line,  $\pm 50\%$  of set point, (Appendix D)\*

Drywell-Suppression Chamber Differential Pressure,  $\pm 0.1$  psid

Suppression Chamber Water Level,  $\pm 4.8$  inches

The test intervals for the trip systems result to calculated failure probabilities  $< 10^{-4}$  which corresponds to the proposed IEEE Criteria For System Failure Probability. (IEEE SG-3, Information Docket #1 - Protection System Reliability, April 24, 1968).

The test intervals for the trip systems result in calculated failure probabilities ranging from  $6.7 \times 10^{-7}$  to  $1.76 \times 10^{-10}$  (Fifth Supplement, p. 115).\* The more frequent sensor checks result in even less probability that the particular system will fail. Because of local high radiation, testing instrumentation in the area of the main steam line isolation valves can only be done during periods of Station shutdown. These functions include high area temperature isolation, high radiation isolation and isolation valve position scram.

Testing of the scram associated with the shutdown position of the mode switch can be done only during periods of Station shutdown since it always involves a scram.



## Attachment B

Niagara Mohawk Power Corporation

License No. DPR-63

Docket No. 50-220

### Supporting Information

A September 30, 1976 letter from the Nuclear Regulatory Commission requested information related to instrumentation which is used to monitor drywell suppression chamber differential pressure and suppression chamber water level. Technical Specifications on these parameters were also requested. On November 5, 1976 we submitted a Technical Specification change on drywell to suppression chamber differential pressure. There presently exists Technical Specifications on suppression chamber water level. Also included in that submittal was a description the instrumentation being used to monitor both differential pressure and water level. A February 4, 1977 letter from the Commission stated that the instrumentation presently installed is unacceptable. We were requested at this time to install instrumentation that would meet the requirements of the staff technical position attached to that letter.

Instrumentation to meet the staff technical position is being installed during the Spring 1977 refueling outage. Since this instrumentation performs a monitoring function only and has no automatic initiation features associated with it, the surveillance requirements set forth in Table 3.6.21 are deemed adequate. In addition, surveillance requirements on this instrumentation are commensurate with surveillance requirements on instrumentation which performs only monitoring functions.

