

December 14, 1989

Docket No. 50-220

Mr. Lawrence Burkhardt III  
Executive Vice President, Nuclear Operations  
Niagara Mohawk Power Corporation  
301 Plainfield Road  
Syracuse, New York 13212

Dear Mr. Burkhardt:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 73049)

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The Commission has issued the enclosed Amendment No. 113 to Facility Operating License No. DPR-63 for the Nine Mile Point Nuclear Station Unit No. 1 (NMP-1). The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated May 1, 1989, as amended June 15, 1989.

This amendment revises Technical Specification (Appendix A) Section 3.1.8 and its associated Bases to permit that one Feedwater Pump blocking valve in one HPCI pump train may be closed during reactor startup when core power is equal to or less than 25% of rated thermal power.

In reviewing this amendment application the staff has observed an apparent inconsistency between parts of the updated FSAR. Page VII-61, Section 3.0, appears to be inconsistent with the accident analyses description of the design bases for the HPCI system. The application, and our understanding, is consistent with the accident analysis description. Your staff has committed to review and to correct, as necessary, this apparent inconsistency on page VII-61 of the updated FSAR.

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

Sincerely,

Original signed by

Robert E. Martin, Senior Project Manager  
Project Directorate I-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 113 to DPR-63
2. Safety Evaluation

cc w/enclosures:  
See next page

[NINE MILE PT AMENDMENT 73049]

See previous concurrence\*

PDI-1:LA	PDI-1:PE	PDI-1:PM	NRR/SRXB	PDI-1:PD	OGC*
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Mr. L. Burkhardt III  
Niagara Mohawk Power Corporation

Nine Mile Point Nuclear Station,  
Unit No. 1

cc:

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

Mr. Kim Dahlberg  
Unit 1 Station Superintendent  
Nine Mile Point Nuclear Station  
Post Office Box 32  
Lycoming, New York 13093

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

Mr. Peter E. Francisco, Licensing  
Niagara Mohawk Power Corporation  
301 Plainfield Road  
Syracuse, New York 13212

Mr. James L. Willis  
General Supt.-Nuclear Generation  
Niagara Mohawk Power Corporation  
Nine Mile Point Nuclear Station  
Post Office Box 32  
Lycoming, New York 13093

Charlie Donaldson, Esquire  
Assistant Attorney General  
New York Department of Law  
120 Broadway  
New York, New York 10271

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

Mr. Paul D. Eddy  
State of New York  
Department of Public Service  
Power Division, System Operations  
3 Empire State Plaza  
Albany, New York 12223

Mr. Gary D. Wilson, Esquire  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

Regional Administrator, Region I  
U. S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

Ms. Donna Ross  
New York State Energy Office  
2 Empire State Plaza  
16th Floor  
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 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 113  
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 May 1, 1989, as amended June 15, 1989, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 113, are 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



Robert A. Capra, Director  
Project Directorate I-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 14, 1989

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Revise Appendix A as follows:

Remove Pages

71

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Insert Pages

71

73a

LIMITING CONDITION FOR OPERATION

3.1.8 HIGH PRESSURE COOLANT INJECTION

Applicability:

Applies to the operational status of the high pressure coolant injection system.

Objective:

To assure the capability of the high pressure coolant injection system to cool reactor fuel in the event of a loss-of-coolant accident.

Specification:

- a. During the power operating condition\* whenever the reactor coolant pressure is greater than 110 psig and the reactor coolant temperature is greater than saturation temperature, the high pressure coolant injection system shall be operable except as specified in Specification "b" below.
- b. If a redundant component of the high pressure coolant injection system becomes inoperable the high pressure coolant injection shall be considered operable provided that the component is returned to an operable condition within 15 days and the additional surveillance required is performed.

\* One Feedwater Pump blocking valve in one HPCI pump train may be closed during reactor startup when core power is equal to or less than 25% of rated thermal power.

SURVEILLANCE REQUIREMENT

4.1.8 HIGH PRESSURE COOLANT INJECTION

Applicability:

Applies to the periodic testing requirements for the high pressure coolant injection system.

Objective:

To verify the operability of the high pressure coolant injection system.

Specification:

The high pressure coolant injection surveillance shall be performed as indicated below:

- a. At least once per operating cycle -  
Automatic start-up of the high pressure coolant injection system shall be demonstrated.
- b. At least once per quarter -  
Pump operability shall be determined.

## BASES FOR 3.1.8 AND 4.1.8 HIGH PRESSURE COOLANT INJECTION

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During reactor startup with periods of low reactor water feed demand, one feedwater train is operated with a blocking valve closed downstream of the main flow control valve when core power is less than or equal to 25% of rated thermal power. This allows the low flow control valve to control the reactor water flow during the startup period when feedwater flow demand is low. Use of the low flow control valve provides more uniform feedwater flow which reduces thermal cycling at the reactor pressure vessel feedwater nozzles and in the feedwater piping as well as eliminating a severe service condition in the main flow control valves during reactor startup. Under low feedwater flow conditions, the main flow control valves also experience high pressure drops and fluid velocities which shorten the valve's life and can cause plant transients due to control valve failure. Reactor startup with one HPCI train available is acceptable since LOCA makeup requirements are reduced during startup because of lower reactor pressure, less decay heat, and lower reactor power than assumed in LOCA analyses performed to Appendix K 10 CFR 50 requirements. The other feedwater train (other HPCI loop) with its blocking valve open would remain capable of supplying 3,800 gpm of feedwater upon automatic HPCI initiation at all reactor pressures.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. DPR-63  
NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT NUCLEAR STATION, UNIT NO. 1  
DOCKET NO. 50-220

INTRODUCTION

By letter dated May 1, 1989, as amended June 15, 1989, Niagara Mohawk Power Corporation (the licensee) has requested a change to Nine Mile Point Unit 1 Technical Specifications Section 3.1.8 and the associated bases. By this change, one Feedwater Pump blocking valve in one High Pressure Coolant Injection train would be closed during reactor startup when core power is equal to or less than 25% of rated thermal power. This change results from the licensee's engineering review of the feedwater transient of December 1987 that resulted from failure of a flow control valve.

EVALUATION

The NRC staff's evaluation of the licensee's request is as follows:

The High Pressure Coolant Injection (HPCI) System at Nine Mile Point Unit 1 is not an engineered safety feature. The HPCI System is a mode of the Feedwater System.

HPCI flow is provided to the core through two of the three feedwater trains which are equipped with motor driven pumps. Each train is composed of a main feedwater line and a low flow bypass line. Each of these lines is equipped with a flow control valve and a blocking valve as shown in Figure 1 of the application. During plant startup and low flow condition, the low flow control valves are ineffective to control flow due to leakage through the main flow control valves. As a result, the main flow control valves are used during startup. The low flow condition during startup causes the main flow control valves to experience excessive wear due to high pressure drop and high flow velocity. The licensee proposes to close the main feedwater line blocking valve on the feedwater train which is in operation during the initial phases of startup and to reopen this blocking valve prior to exceeding 25% rated thermal power. This change will allow control of feedwater flow through the low flow control valve which is in parallel with the closed block valve during initial phases of startup. Upon HPCI initiation, the low flow bypass valve on the operating train would close and the operator would initiate manual opening of the closed blocking valve. It would take approximately 60 seconds for this valve to open. The other feedwater train with its blocking valve open would remain available and could supply 3800 gpm of feedwater upon automatic HPCI initiation at all reactor pressures.



The HPCI system at Nine Mile Point Unit 1 is not an engineered safety feature. The HPCI system is not required to meet the 10 CFR Part 50 Appendix K requirements. It is designed to provide a reliable high pressure injection capability in the event of a small line break and minimize the need to use the Auto Depressurization System (ADS) which is an engineered safety feature system. Under accident conditions the ADS depressurizes the reactor, if necessary, to allow the Core Spray System to perform its function. The Core Spray System is the design basis system which provides makeup water capability during a LOCA.

In response to the licensee's request, the staff concludes that one Feedwater Pump blocking valve in one HPCI pump train may be closed during reactor startup when core power is equal to or less than 25% of rated thermal power.

#### ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of the facility components located within the restricted areas as defined in 10 CFR 20. The staff has determined that this amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that 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 Section 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.

#### 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 14, 1989

#### PRINCIPAL CONTRIBUTOR:

Daniele Oudinot