

2/17/76

Docket No. 50-220

Niagara Mohawk Power Corporation
ATTN: Mr. Gerald K. Rhode
Vice President - Engineering
300 Erie Boulevard West
Syracuse, New York 13202

Gentlemen:

The Commission has issued the enclosed Amendment No. 8 to Facility License No. DPR-63 for Unit 1 of the Nine Mile Point Nuclear Station. This amendment consists of changes to the Technical Specifications and is based on our letters to you dated September 23, 1975 and December 29, 1975.

This amendment revises the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment and have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level, and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of this amendment. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.



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A copy of the related Federal Register Notice is also enclosed. Our Safety Evaluation relating to this action was forwarded to you with our letter dated September 23, 1975.

Sincerely,

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

- 1. Amendment No. 8 to License DPR-63
- 2. Federal Register Notice

cc w/enclosures:
See next page

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

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

NINE MILE POINT UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. DPR-63

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. 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;
 - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - C. The facility will operate in conformity with the provisions of the Act, and the rules and regulations of the Commission; and
 - D. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Karl R. Goller

Karl R. Goller, Assistant Director
for Operating Reactors
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: FEB 17 1974

ATTACHMENT TO LICENSE AMENDMENT NO. 8

CHANGE TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Delete existing pages 27 and 34 of the Technical Specifications and insert the attached revised pages 27 and 34. The changed areas on the revised pages are shown by marginal lines.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

(2) Reactivity margin - stuck control rods

Control rods which cannot be moved with control rod drive pressure shall be considered inoperable. Inoperable control rods shall be valved out of service, in such positions that Specification 3.1.1 a(1) is met. In no case shall the number of non-fully inserted rods valved out of service be greater than six during power operation. If this specification is not met, the reactor shall be placed in the cold shutdown condition. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing.

b. Control Rod Withdrawal

- (1) The control rod shall be coupled to its drive or completely inserted and valved out of service. When removing a control rod drive for inspection, this requirement does not apply as long as the

and all other operable rods fully inserted.

(2) Reactivity margin - stuck control rods

Each partially or fully withdrawn control rod shall be exercised at least once each week. This test shall be performed at least once per 24 hours in the event power operation is continuing with two or more inoperable control rods or in the event power operation is continuing with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than two and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.

b. Control Rod Withdrawal

- (1) The coupling integrity shall be verified for each withdrawn control rod by either:
- (a) Observing the drive does not go to the overtravel position,
or

maximum contribution to shutdown reactivity. If it is valved out of service in a non-fully inserted position, that position is required to be consistent with the shutdown reactivity limitation stated in Specification 3.1.1 a(1), which assures the core can be shut down at all times with control rods.

The allowable inoperable rod patterns will be determined using information obtained in the startup test program supplemented by calculations. During initial startup, the reactivity condition of the as-built core will be determined. Also, sub-critical patterns of widely separated withdrawn control rods will be observed in the control rod sequences being used. The observations, together with calculated strengths of the strongest control rods in these patterns will comprise a set of allowable separations of malfunctioning rods. During the fuel cycle, similar observations made during any cold shutdown can be used to update and/or increase the allowable patterns.

The number of rods permitted to be valved out of service could be many more than the six allowed by the specification, particularly late in the operating cycle; however, the occurrence of more than six could be indicative of a generic problem and the reactor will be shut down. Placing the reactor in the shutdown condition inserts the control rods and accomplishes the objective of the specifications on control rod operability. This operation is normally expected to be accomplished within ten hours. The weekly control rod exercise test serves as a periodic check against deterioration of the control rod system. Experience with this control rod drive system has indicated that weekly tests are adequate, and that rods which move by drive pressure will scram when required as the pressure applied is much higher.

Also if damage within the control rod drive mechanism and in particular, cracks in drive internal housings, cannot be ruled out, then a generic problem affecting a number of drives cannot be ruled out. Circumferential cracks resulting from stress assisted intergranular corrosion have occurred in the collet housing of drives at several BWRs. This type of cracking could occur in a number of drives and if the cracks propagated until severance of the collet housing occurred, scram could be prevented in the affected rods. Limiting the period of operation with a potentially severed collet housing and requiring increased surveillance after detecting one stuck rod will assure that the reactor will not be operated with a large number of rods with failed collet housings.

b. Control Rod Withdrawal

- (1) Control rod dropout accidents as discussed in Appendix E* can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod dropout accident is eliminated. The overtravel position feature provides a positive check as only uncoupled drives may reach this position. Neutron instrumentation response to rod movement provides an indirect verification that the rod is coupled to its drive. Details of the control rod drive coupling are given in Section IV.B.6.1.*

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-220

NIAGARA MOHAWK POWER CORPORATION

NOTICE OF ISSUANCE OF AMENDMENT
TO FACILITY OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 8 to Facility Operating License No. DPR-63 to the Niagara Mohawk Power Corporation (the Licensee), which revised Technical Specifications for operation of the Nine Mile Point Unit 1 (the facility), located in Oswego, New York. The amendment is effective as of its date of issuance.

This amendment revised the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Notice of the Proposed Issuance of Amendment to Facility Operating License in connection with this action was published in the FEDERAL REGISTER on January 8, 1976 (41 F.R. 1548). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant

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to 10 CFR §51.5(d)(4) an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the Commission's letters to Niagara Mohawk Power Corporation dated September 23, 1975 and December 29, 1975, (2) the letters from Niagara Mohawk Power Corporation to the Commission dated October 14, 1975 and January 19, 1976, (3) Amendment No. 8 to License No. DPR-63 and (4) the Commission's related Safety Evaluation issued on September 23, 1975. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Oswego City Library, 120 E. Second Street, Oswego, New York 13126.

A single copy of items (1), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 17 day of Feb. 1976

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

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