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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. 9 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 in response to your request dated January 19, 1976.

The amendment modifies the Technical Specifications relating to reactor coolant chemistry limits to improve their application to all reactor operating conditions.

In reviewing your application it was found that certain changes in the proposed Technical Specifications were required. These changes were discussed with and approved by your staff.

Copies of the related Safety Evaluation and the Federal Register Notice also are enclosed.

Sincerely,

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

Enclosures:
1. Amendment No. 9 to License DPR-63
2. Safety Evaluation
3. Federal Register Notice

cc w/encls:
See next page

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DOR: OT-EB F. Almeter 4/02/76

DOR: STS J. [illegible] 4/13/76

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-526-166

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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. 9
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 January 19, 1976, 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; and

   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. 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

George Lear

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

Attachment:
Changes to the
Technical Specifications

Date of Issuance: April 28, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 9

FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Replace pages 83 and 84 with the attached revised pages.

LIMITING CONDITION FOR OPERATION

3.2.3 COOLANT CHEMISTRY

Applicability:

Applies to the reactor coolant system chemical requirements.

Objective:

To assure the chemical purity of the reactor coolant water.

Specification:

a. The reactor coolant water shall not exceed the following limits with steaming rates less than 100,000 pounds per hour except as specified in 3.2.3c:

Conductivity	2 μmho/cm
Chloride ion	0.1 ppm

b. The reactor coolant water shall not exceed the following limits with steaming rates greater than or equal to 100,000 pounds per hour except as specified in 3.2.3c:

Conductivity	5 μmho/cm
Chloride ion	0.2 ppm

Amendment No. 9

SURVEILLANCE REQUIREMENT

4.2.3 COOLANT CHEMISTRY

Applicability:

Applies to the periodic testing requirements of the reactor coolant chemistry.

Objective:

To determine the chemical purity of the reactor coolant water.

Specification:

Samples shall be taken and analyzed for conductivity and chloride ion content at least 3 times per week with a maximum time of 96 hours between samples. In addition, if the conductivity becomes abnormal (other than short term spikes) as indicated by the continuous conductivity monitor, samples shall be taken and analyzed within 8 hours and daily thereafter until conductivity returns to normal levels

When the continuous conductivity monitor is inoperable, a reactor coolant sample shall be taken and analyzed for conductivity and chloride ion content at least once per 8 hours.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
c. The limits specified in 3.2.3a and 3.2.3b may be exceeded for a period of time not to exceed 24 hours. In no case shall (1) the conductivity exceed a maximum limit of 10 μmho/cm, or (2) the chloride ion concentration exceed a maximum limit of 0.5 ppm.	
d. If Specifications 3.2.3.a, b, and c are not met, normal orderly shutdown shall be initiated within one hour and the reactor shall be in the cold shutdown condition within ten hours.	
e. If the continuous conductivity monitor is inoperable for more than 7 days the reactor shall be placed in the cold shutdown condition within 24 hours.	

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 9 TO FACILITY OPERATING LICENSE NO. DPR-63

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT UNIT 1

DOCKET NO. 50-220

Introduction

By letter dated January 19, 1976, Niagara Mohawk Power Corporation (NMPC) submitted an application for amendment to Facility Operating License No. DPR-63 for Nine Mile Point Unit 1 (NMP-1). The proposed amendment involves changes to the Technical Specification requirements related to reactor coolant chemistry. The changes would:

(1) Reduce the reactor coolant chloride ion concentration limit for reactor steaming rates greater than 100,000 pound per hour from 0.5 parts per million (ppm) to 0.2 ppm; and

(2) Establish provisions whereby the normal reactor coolant chemistry limits may be exceeded for a limited period of time, provided that defined maximum limits are not exceeded.

Selected modifications were made, with the mutual approval of the NRC staff and NMPC, to the original application in order to assure that the wording of the Technical Specification changes was consistent with the format of the Standard BWR Technical Specifications.

Discussion

The current coolant chloride ion concentration limit for reactor steaming rates less than 100,000 pounds per hour at NMP-1 is 0.1 ppm. This specification is intended to restrict the coolant chloride ion content during periods of operation, such as reactor startup and hot standby, when reactor water dissolved oxygen levels may be high. This restriction is necessary to assure that the stainless steel reactor coolant system components are not exposed to a coolant chemistry environment which could promote chloride stress corrosion cracking.

During normal reactor power operation, with steaming rates greater than 100,000 pounds per hour, boiling in the reactor causes deaeration of the coolant water and results in much lower levels of dissolved

oxygen (0.2-0.3 ppm). At these lower oxygen levels, chloride ion concentrations of up to 1ppm can be tolerated without encountering chloride stress corrosion cracking of primary system materials. The current chloride ion concentration limit for steaming rates greater than 100,000 pounds per hour at NMP-1 is 0.5 ppm.

In the process of shutting down the reactor from normal power operation, the reactor may be brought to a steaming rate of less than 100,000 pounds per hour while the chloride ion concentration temporarily remains greater than 0.1 ppm. During this transition period the dissolved oxygen content in the coolant water remains at low levels, and the coolant chemistry conditions which could promote chloride stress corrosion cracking do not exist. However, since the current NMP-1 coolant chemistry technical specifications do not include sufficient flexibility to adequately account for chemistry conditions during this operational transition, operation under these conditions constitutes a violation of Technical Specifications. Consequently, NMPC has proposed changes to the Technical Specifications in order to clarify the reactor coolant chemistry requirements and to improve their application to all possible reactor operating conditions.

Evaluation

The proposed changes establish a more restrictive limit (0.2 ppm rather than the existing 0.5 ppm) for coolant chloride ion concentration when the reactor is in normal power operation with steaming rates greater than 100,000 pounds per hour. This is consistent with the guidance expressed in Regulatory Guide 1.56, "Maintenance of Water Purity in Boiling Water Reactors", in that the chloride content in the reactor vessel should be maintained as low as practical.

In addition, the proposed changes provide flexibility in the application of the reactor coolant chemistry limits in order to account for the effects of operational transients such as reactor startup and shutdown on coolant chemistry. The proposed changes allow the normal coolant chloride ion concentration limit to be exceeded for a period of time no longer than 24 hours, provided that a maximum chloride ion concentration limit of 0.5 ppm is not exceeded. This maximum allowable chloride concentration of 0.5 ppm is consistent with the maximum allowable limit for chloride concentration described in Regulatory Guide 1.56. The 24 hour time limit provides a reasonable period of time for the reactor cleanup system to restore the coolant water chemistry to within normal limits before requiring that the reactor be placed in the cold shutdown condition. The combination of the 24 hour time limit and the 0.5 ppm maximum allowable limit for chloride ion concentration provides assurance that chloride stress corrosion cracking of reactor system components will not occur.

Based on the discussion above, we have concluded that the proposed changes (1) improve the application of acceptable reactor coolant chemistry limits to all reactor operating conditions and (2) assure the maintenance of a reactor coolant chemistry environment which will prevent chloride stress corrosion cracking of reactor system components.

Environmental Considerations

We 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.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Dated: April 28, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-220

NIAGARA MOHAWK POWER CORPORATION

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENT

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 9 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 Nuclear Station, Unit 1 (the facility) located in Oswego County, New York. The amendment is effective as of its date of issuance.

The amendment modifies the Technical Specifications relating to reactor coolant chemistry limits to improve their application to all reactor operating conditions.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. 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. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant 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 application for amendment dated January 19, 1976, (2) Amendment No. 9 to License No. DPR-63, and (3) the Commission's related Safety Evaluation. 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 copy of items (2) and (3) 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 28th day of April, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

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