UNITED STATES NUCLEAR REGULATORY COMMISSION

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-63 issued to Niagara Mohawk Power Corporation for operation of the Nine Mile Point Nuclear Station, Unit No. 1, located in Oswego County, New York.

The application for amendment dated May 22, 1986, would modify Technical Specification (TS) Section 6.12, High Radiation Area, Table 3.6.2a, Instrumentation That Initiates Scram, Table 3.6.2b, Instrumentation That Initiates Primary Coolant System or Containment Isolation, Table 3.6.2h, Vacuum Pump Isolation, and the notes to these three tables to allow Niagara Mohawk to demonstrate the feasibility of a Hydrogen Water Chemistry System as a mitigator of intergranular stress corrosion cracking of stainless steel piping at Nine Mile Point Unit 1.

Niagara Mohawk is investigating the implementation of Hydrogen Water Chemistry as a possible mitigator of intergranular stress corrosion cracking in reactor recirculation system piping. To demonstrate the feasibility of a permanent Hydrogen Water Chemistry System for Nine Mile Point Unit 1, a

pre-implementation test will be conducted. The test is to be performed by Niagara Mohawk and General Electric and is similar in scope to hydrogen injection tests previously performed at other nuclear power plants. Experience gained from these programs will be incorporated into the Nine Mile Point Unit 1 test plan.

The pre-implementation test involves injecting hydrogen into the feedwater system from zero to approximately 45 standard cubic feet per minute in predefined increments of 2-4 standard cubic feet per minute. A stoichiometric amount of oxygen will be added upstream of the recombiner to aid in proper off-gas recombination. During this stage, various chemical and operating parameters (e.g., H_2,O_2, electrochemical potential) will be monitored to define the intergranular stress corrosion cracking immune regime for Nine Mile Point Unit 1.

The addition of hydrogen lowers the solubility of the nitrogen in the reactor water causing increased nitrogen carryover in the main steam; thereby resulting in approximately a one- to five-fold increase in the N-16 activity in the steam. The resultant increase in the background radiation level necessitates a temporary change to the main steam line high radiation scram and isolation setpoints.

The changes made to the Technical Specifications are the inclusion of a note to the main steam line high radiation scram and isolation setpoints (Tables 3.6.2a, 3.6.2b) and vacuum pump isolation (Table 3.6.2h). This change will allow the setpoints initially to be changed based on a calculated value of the radiation level expected during the test. Once the test has

begun, these setpoints may be changed based on either revised calculations or measurements of actual radiation levels resulting from hydrogen injection.

The test will be performed with the reactor power at greater than 20% rated power. The initial setpoint changes may be made within 24 hours prior to the planned start of the hydrogen injection test. The setpoints shall be re-established to five times normal rated power background within 24 hours following completion of the test or within 12 hours of establishing reactor power levels below 20% rated power, while these functions are required to be operable. Additionally, hydrogen injection shall be terminated and the injection system secured if reactor power is less than 20% rated power.

The only accident which takes credit for this setpoint is the control rod drop accident. This accident is most severe at hot standby with the main steam lines wide open as opposed to power operation because:

(1) reactivity worths of the control rods are greater at hot standby than at power, and

(2) fission products released as a result of the excursion are transported to the main condenser, then to the high flow mechanical vacuum pump system and eventually offsite, instead of the offgas system.

A bounding analysis (FSAR Revision 3, Chapter XV, Section C.4, Control Rod Drop Accident) has been performed to establish limits for incremental control rod worths to ensure that the peak fuel enthalpy does not exceed 280 cal gm (a limiting value) if the maximum worth control rod were to drop out. The analysis has shown that limits on control rod worths are necessary for power levels less than 20 percent of design rated. Above 20 percent of rated

design power inherent feedback mechanisms, primarily in the form of steam voids, limit the control rod worth to such an extent that the control rod drop accident need not be considered.

As stated in Chapter XV, Section C.4.5.2 of the Final Safety Analysis Report for Nine Mile Point Unit 1, the doses resulting from this accident are well below 10 CFR 100 guidelines. Hence, even assuming a five-fold increase in the accident because of the increase in the background level following hydrogen injection, the resulting off-site radiological effects would conservatively remain below 10 CFR 100 guidelines.

The bases for 3.6.2 and 4.6.2, Protective Instrumentation, indicates that in addition to the control rod drop accident, the radioactivity at the main steam line radiation monitor, due to the gross failure of one rod with complete fission product release from the rod, would exceed the normal background at the monitor. This function of the main steam line radiation monitor can also be provided by the condenser air ejector radioactivity monitor and the stack monitor, which must meet the operability requirements of Specification 3.6.14. These monitors can detect lower levels of radioactivity than the main steam line radiation monitor.

In addition to the above, a note is being added to Specification 6.12 to indicate that certain areas may temporarily exceed 1000 mrem/hr during the hydrogen water chemistry test without having access controlled by locked doors under the administrative control of the Station Shift Supervisor. These areas do not have to be continually manned to safely shut the plant down.

An ALARA review will be performed prior to beginning the injection test. The hydrogen water chemistry tests will be conducted at night to minimize potential exposure to plant personnel. Extensive in-plant and site

radiation surveys will be conducted at regular intervals during the test to monitor the actual doses. As required, radiation protection measures will be implemented to maintain doses as-low-as-reasonably achievable.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The licensee has presented its determination of no significant hazards consideration as follows:

> 10 CFR 50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis, using the standards in Section 50.92, about the issue of no significant hazards consideration. Therefore, in accordance with 10 CFR 50.91 and 10 CFR 50.92, the following analysis has been performed:
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> Operation of Nine Mile Point Unit 1 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated. The only accident which takes credit for the Main Steam Line High Radiation trip is the design basis control rod drop accident (Technical Specification Bases for 3.6.2 and 4.6.2, Protective Instrumentation). As stated in the FSAR, Chapter XV, Section C.4, a control rod drop accident occurring at power greater than 20%, regardless of the rod pattern, will never result in a peak fuel enthalpy that will result in fuel damage. Since the Main Steam Line High Radiation Monitor setpoints will be increased for hydrogen injection at power levels of 20% or higher, there is no affect on the Technical Specification Bases and the design function of the Main Steam Line High Radiation Monitor trip will remain valid.

If the reactor drops below 20% rated power prior to setpoint readjustment, the hydrogen injection shall be terminated and the system secured. The necessary setpoint readjustment shall be made within 12 hours, while these functions are required to be operable. At all times the capability to monitor for fuel failures, which is the purpose of the Main Steam Line Radiation trip setpoint, will be maintained by: i) the continued operability of the main steam radiation monitors which provide signals to the reactor protection and primary containment isolation systems; ii) routine radiation surveys; iii) the performance of primary coolant water analysis; and iv) the continued operability of the condenser air ejector radioactivity monitor and stack monitor. Due to these continued monitoring capabilities, the proposed license amendment does not involve a significant increase in the consequences of an accident previously evaluated.

The addition of the note to Specification 6.12 to allow certain areas to exceed 1000 mrem/hr without having access controlled by locked door (gates) under the administrative control of the Station Shift Supervisor is an administrative control to maintain personnel exposure ALARA. Since additional administrative controls are being taken during the hydrogen water chemistry test, personnel exposure will still be maintained ALARA and the proposed change does not involve a significant increase in the probability of consequences of an accident previously evaluated.

Operation of Nine Mile Point Unit 1 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated. As stated above, the only event affected by the temporary increase on the main steam line High Radiation scram and isolation setpoints is the control rod drop accident, which has been previously evaluated. This proposed amendment will result only in the changing of a setpoint; which by itself, cannot introduce a new or different kind of accident from any previously evaluated.

The addition of the note to Specification 6.12 is an administrative control to assist in maintaining personnel exposure ALARA. Therefore, this proposed change also cannot create the possibility of a new or different kind of accident from any previously evaluated. Operation of Nine Mile Point Unit 1 in accordance with the proposed amendment will not involve a significant reduction in a margin of safety. A temporary increase in the Main Steam Line High Radiation scram and isolation setpoints will not affect any FSAR Chapter 15 accident or transient analysis, other than the control rod drop accident, which is the only event that takes credit for this signal. Also, since the Main Steam Line Radiation monitor setpoint will be increased only for hydrogen injection at power levels of 20% or higher, the Technical Specification Bases and the design function of the Main Steam Line High Radiation trip will remain valid.

The addition of the note to Specification 6.12 has no affect on any margins of safety.

As determined by the analysis above, this proposed amendment involves no significant hazards consideration.

The staff has reviewed the licensee's no significant hazards consideration determination and agrees with the licensee's analysis. Therefore, the staff proposes the determine that the application for amendment involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments should be addressed to the Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Copies of comments received may be examined at the NRC Public Document Room, 1717 H Street, NW, Washington, D.C.

By , the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Request for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the

designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR §2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendment under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory

Commission, Washington, D.C. 20555, Att: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, NW Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to John A. Zwolinski, Director, BWR Project Directorate #1, Division of BWR Licensing: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Troy B. Conner, Jr., Esquire, Conner & Wetterhahn, Suite 1050, 1747 Pennsylvania Avenue, N.W., Washington D.C. 20006, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board, that the petition and/or request should be granted based upon a balancing of factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment which is available for public inspection at the Commission's Public Document Room, 1717 H Street, NW, Washington, D.C., and at the State University College at Oswego, Penfield Library - Documents, Oswego, New York.

Dated at Bethesda, Maryland, this 3rd day of June 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack N. Donohew, Jr., Acting Director
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Division of BWR Licensing