AUG 8 1977

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Docket
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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:

RE: NINE MILE POINT NUCLEAR STATION UNIT NO. 1

In the past several years, a significant number of relief valves and safety-relief valves were found to be inoperable at BWR reactor facilities. These valves were installed in the Reactor Coolant System and/or Automatic Depressurization System. Several programs have been developed to reduce the incidence of these valve failures; however, additional failures continue to occur.

Consequently, we have concluded that changes to the Surveillance Requirements and Limiting Conditions for Operations for all BWR's are needed to provide additional assurance of relief valve and safety-relief valve operability and reliability. Therefore, we request that you modify your surveillance testing program through the adoption of the program contained in the model technical specifications we have prepared. The elements of this program include:

1. Each remotely operated relief valve and safety-relief valve in the Reactor Coolant System and Automatic Depressurization System will be tested on a variable frequency schedule related to demonstrated reliability and operability. The testing interval is based on the number of valve failures during the required test interval. Facilities with reliable valves will progress to a longer test interval while those with valve failures will progress to a shorter test interval. This concept should result in the maintenance of a more uniform level of reliability for this equipment than previously obtained.

2. The increased surveillance program will become effective on March 1, 1979. No increase in valve testing is required before that date. The initial testing interval of the increased surveillance program will be based on the number of remotely operated relief valves and safety-relief valves found inoperable in the previous 18 months (September 1, 1977 to March 1, 1979). This lead time will permit the resolution of the Mark I Safety-Relief Valve Loads and ~~Structural Capability generic concern. Additionally, this lead~~

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time is sufficient to permit the development and implementation of improved safety and safety-relief valve maintenance procedures and other corrective actions prior to implementing the test program.

3. The relief and/or safety-relief valve line restraints in the torus will be examined prior to initiating the test program and at least once each fuel cycle (i.e., each 18 months) to verify continued structural integrity.

We request that you submit within 30 days from your receipt of this letter, an application for amendment to your license that will change your technical specifications to be in conformance with the requirements of the enclosed model technical specifications and associated bases. In the event you should desire further discussion of this matter, please contact us.

Sincerely,

Original signed by

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

Enclosure:
Model Technical
Specifications

cc:
Arvin E. Upton, Esquire
LeBoeuf, Lamb, Leiby & MacRae
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Washington, D. C. 20036

Anthony Z. Roisman, Esquire
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Mr. Eugene G. Saloga, Applicant Coordinator
Nine Mile Point Energy Information Center
P. O. Box 81
Lycoming, New York 13093

OFFICE➤	ORB 3	ORB #3	ORB #3	ORB #3		
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DATE➤	8/1/77	8/3/77	8/4/77	8/8/77		

REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.4.2 At least the following reactor coolant system code safety valves and safety-relief valves shall be operable with lift settings within ± 1% of the indicated pressures.

(2)* Safety valves @ (1240) psig
(3) Safety-relief valves @ (1100) psig
(3) Safety-relief valves @ (1090) psig
(3) Safety-relief valves @ (1080) psig

APPLICABILITY: With Average Coolant Temperature > 212°F or the Mode Switch in Run, or Startup/Hot Standby.

ACTION:

With one or more reactor coolant system code safety valve(s) or a safety-relief valve(s) inoperable either restore the valve(s) to operable status within 15 minutes or be shutdown within 12 hours and reduce Average Coolant Temperature to ≤ 212°F within the next 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.1 In addition to the applicable ASME Boiler and Pressure Vessel Code, Section XI requirements, each safety-relief valve shall be demonstrated operable:

a. At least once per 24 hours, by verifying bellows integrity through instrument indication.

b. Until March 1, 1979, at least once per 18 months by:

1. Manually opening each remotely operated safety-relief valve with the reactor at or below 5% rated power and at nominal operating pressure, and verifying that either:

a. The turbine bypass valve(s) indicate a compensating valve movement, or

b. The reactor coolant system pressure decreases by an amount equivalent to the valve pressure relieving capacity for the test conditions.

*Does not include installed spare safety valves.

SURVEILLANCE REQUIREMENTS (Continued)

2. Conducting a visual inspection of the safety-relief valve line restraints in the torus to verify structural integrity for continued operation.

c. After March 1, 1979, by performance of the following test program:

1. Manually opening each remotely operated safety-relief valve in accordance with the test schedule of Table 4.4-10 with the reactor at or below 5% rated power and a steam at nominal operating pressure and verifying that either:

    a. The turbine bypass valve(s) indicate a compensating valve movement, or

    b. The reactor coolant system pressure decreases by an amount equivalent to the valve pressure relieving capacity for the test conditions.

2. The initial Next Required Test Interval of Table 4.4-10 shall be determined by the number of remotely operated relief and safety-relief valves found inoperable from September 1, 1977 to March 1, 1979.

3. The initial valve tests of Table 4.4-10 shall be completed by, the earlier of:

    a. The completion of the next refueling outage occurring after March 1, 1979, or

    b. The time period defined by March 1, 1979 plus the initial test interval, determined above.

4. At least once per 18 months, by conducting a visual inspection of the safety-relief valve line restraints in the torus to verify structural integrity for continued operation.

4.4.2.2 Each safety valve and the safety valve function of each safety-relief valve shall be demonstrated operable per the requirements of the ASME Boiler and Pressure Vessel Code (   ) Edition and Addenda through (   ).

TABLE 4.4-10

REMOTELY OPERATED RELIEF AND SAFETY-RELIEF VALVE TEST SCHEDULE

NUMBER OF REMOTELY OPERATED RELIEF AND SAFETY-RELIEF VALVES FOUND INOPERABLE DURING TESTING OR TEST INTERVAL**	NEXT REQUIRED TEST INTERVAL*
0	18 months $\pm$ 25%
1	184 days $\pm$ 25%
2	92 days $\pm$ 25%
$\geq$ 3	31 days $\pm$ 25%

* The required test interval shall not be lengthened more than one step at a time. Early tests may be performed prior to entering the "next required test interval" (i.e., in advance of the nominal time less the negative 25% tolerance band). Early tests may be used as a new reference point for tests of the same interval, however, they are not acceptable for lengthening the test interval.

**Setpoint drift is not considered to be a valve failure for the purposes of this test schedule.

BASES

3/4.4.2 SAFETY VALVES

The reactor coolant system safety valves operate to prevent the reactor coolant system from being pressurized above the Safety Limit of _____ psig. Each safety valve is designed to relieve ___ lbs per hour at the valve set point. The system is designed to meet the ASME Boiler and Pressure Vessel Code requirements that the nuclear system relief valves shall function to prevent opening of the safety valves. Although the safety valve function is not expected to be required under the most limiting transient, an inoperable valve requires shutdown in order to comply with ASME Code requirements.

The testing frequency applicable to the relief valve function of the safety-relief valves is provided to ensure operability and demonstrate reliability of the valves. The required testing interval varies with observed valve failures. The number of inoperable valves found during both operation and testing of these valves determines the time interval for the next required test of these valves. Early tests may be performed prior to entering the next required test interval (i.e., in advance of the nominal time less the negative 25% tolerance band). Early tests may be used as a new reference point for tests of the same time interval, however, they are not acceptable for lengthening the test interval since they were not performed within the ±25% tolerance band as required by Table 4.4-10.

Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of Section XI of the ASME Boiler and Pressure Vessel Code.

EMERGENCY CORE COOLING SYSTEMS

AUTOMATIC DEPRESSURIZATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.5.2 The Automatic Depressurization System (ADS) shall be OPERABLE with at least (6)* OPERABLE ADS valves.

APPLICABILITY: With Average Coolant Temperature > 212°F or the Mode Switch in Run, or Startup/Hot Standby.

ACTION:

a. With one of the above required ADS valves inoperable, operation may continue provided the actuation logic of the remaining ADS valves is operable and the CSS and LPCI systems are operable, and the HPCI system is demonstrated operable within 4 hours; restore the inoperable ADS valve to operable status within 14 days or be shutdown within 12 hours and reduce the Average Coolant Temperature to ≤ 212°F within the following 24 hours.

b. With two or more of the above required ADS valves inoperable, be shutdown within 12 hours and reduce the Average Coolant Temperature to ≤ 212°F within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.5.2 In addition to the applicable ASME Boiler and Pressure Vessel Code, Section XI requirements, the ADS shall be demonstrated operable:

a. At least once per 18 months by performance of a system functional test which includes simulated automatic actuation through the automatic depressurization sequence, but excluding valve actuation.

b. Until March 1, 1979, at least once per 18 months by:

   1. Manually opening each ADS valve with the reactor at or below 5% rated power and at nominal operating pressure and verifying that either:

      a. The turbine bypass valve(s) indicate a compensating valve movement, or

      b. The reactor coolant system pressure decreases by an amount equivalent to the valve pressure relieving capacity for the test conditions.

*Number of ADS valves to be consistent with ECCS analysis.

SURVEILLANCE REQUIREMENTS (Continued)

2. Conducting a visual inspection of the safety-relief and relief valve line restraints in the torus to verify structural integrity for continued operation.

c. After March 1, 1979, by performance of the following test program:

1. Manually opening each ADS valve in accordance with the test schedule of Table 4.4-10 with the reactor at or below 5% rated power and at nominal operating pressure and verifying that either:

   a. The turbine bypass valve(s) indicate a compensating valve movement, or

   b. The reactor coolant system pressure decreases by an amount equivalent to the valve pressure relieving capacity for the test conditions.

2. The initial Next Required Test Interval of Table 4.4-10 shall be determined by the number of remotely operated relief and safety-relief valves found inoperable from September 1, 1977 to March 1, 1979.

3. The initial valve tests of Table 4.4-10 shall be completed by, the earlier of:

   a. The completion of the next refueling outage occurring after March 1, 1979, or

   b. The time period defined by March 1, 1979 plus the initial test interval, determined above.

4. At least once per 18 months by conducting a visual inspection of the safety-relief and relief valve line restraints in the torus to verify structural integrity for continued operation.

3/4.5.2 AUTOMATIC DEPRESSURIZATION SYSTEM (ADS)

Upon failure of the HPCIS to function properly after a small break loss-of-coolant accident, the ADS automatically causes the safety-relief valves to open, depressurizing the reactor so that flow from the low pressure cooling systems can enter the core in time to limit fuel cladding temperature to less than 2200°F. ADS is conservatively required to be operable whenever reactor vessel pressure exceeds (150) psig even though low pressure cooling systems provide adequate core cooling up to (350) psig.

ADS automatically controls (7) safety-relief valves although the safety analysis only takes credit for (6). Therefore it is appropriate to permit (one) valve to be out-of-service without materially reducing system reliability.

The testing frequency applicable to ADS valves is provided to ensure operability and demonstrate reliability of the valves. The required testing interval varies with observed valve failures. The number of inoperable valves found during both operation and testing of these valves determines the time interval for the next required test of these valves. Early tests may be performed prior to entering the next required test interval (i.e., in advance of the nominal time less the negative 25% tolerance band). Early tests may be used as a new reference point for tests of the same time interval, however, they are not acceptable for lengthening the test interval since they were not performed within the ±25% tolerance band as required by Table 4.4-10.

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Docket No. 50-220

MAY 20 1977

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

Gentlemen:

RE: NINE MILE POINT NUCLEAR STATION UNIT NO. 1

Our review of data received from reactor vessel material surveillance programs indicates that the materials used in reactor vessel fabrication may have a wider variation in sensitivity to radiation damage than originally anticipated. In addition, some reactor vessels incorporate more than one heat of materials, including weld metals in their beltline regions, but all of these heats may not be included in the reactor vessel material surveillance program.

Although our review of these data does not reveal a basis for concern regarding continued reactor vessel integrity over the next several years, the information does indicate the need for a detailed review of the materials employed in reactor vessel construction (in light of this recent data) and a review of the specimens employed in the surveillance program to determine if the present specimens reasonably represent the limiting materials in the reactor vessel beltline region.

In order to perform these reviews, we will need the information listed in the enclosure relative to each of your reactor vessel(s) and associated surveillance specimens.

Accordingly, you are requested to supply one signed original and 39 copies of the information listed in the enclosure within 60 days of receipt of this letter.

This request for generic information was approved by GAO under a blanket clearance number B-180225 (R0072); this clearance expires July 31, 1977.

Sincerely,

Original signed by

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

Enclosure and ccs:
See next page

OFFICE			ORB #3	ORB #3	ORB #4	ORB #3
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DATE			5/19/77	5/19/77	5/19/77	5/20/77