



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 11, 1993

Docket No. 50-410

Mr. B. Ralph Sylvia
Executive Vice President, Nuclear
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Dear Mr. Sylvia:

SUBJECT: ISSUANCE OF SCHEDULAR EXEMPTION FROM THE REQUIREMENTS OF 10 CFR PART 50, APPENDIX J, FOR NINE MILE POINT NUCLEAR STATION, UNIT 2, REGARDING TYPE B TESTS FOR EXPANSION BELLOWS IN FOUR PENETRATIONS (TAC NO. M86683)

By letter dated May 28, 1993, Niagara Mohawk Power Corporation (NMPC) requested a one-time only schedular exemption for Nine Mile Point Nuclear Station, Unit 2 (NMP-2), until the end of the 1993 refueling outage (currently scheduled to begin on October 1, 1993) from the requirements of 10 CFR Part 50, Appendix J, Section III, regarding Type B tests of the expansion bellows in four Traversing Incore Probe containment penetrations.

The NRC staff has reviewed the information provided in support of NMPC's schedular exemption request. On the basis of the submitted information and as discussed in the enclosed exemption and supporting safety evaluation, the NRC staff has concluded that there is a high degree of confidence that the integrity of the bellows in the four containment penetrations affected by this exemption will not degrade to an unacceptable level prior to the end of the 1993 refueling outage. Thus, the NRC staff has concluded that your request is justified and your request for a schedular exemption to delay performance of Type B testing of the expansion bellows in four containment penetrations until the end of the 1993 refueling outage is granted.

We find that granting the exemption from the requirements of 10 CFR Part 50, Appendix J, Section III.B., is authorized by law, will not present an undue risk to public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii) and (iii).

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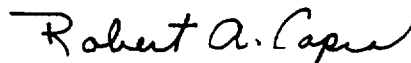
Mr. B. Ralph Sylvia

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August 11, 1993

Copies of the Exemption and the NRC staff's supporting safety evaluation are enclosed. The Exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,



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

Enclosure:

1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. B. Ralph Sylvia
Niagara Mohawk Power Corporation

Nine Mile Point Nuclear Station
Unit 2

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
NIAGARA MOHAWK POWER CORPORATION) Docket No. 50-410
(Nine Mile Point Nuclear Station)
Unit 2))

EXEMPTION

I.

Niagara Mohawk Power Corporation (NMPC or the licensee) is the holder of Facility Operating License No. NPF-69, which authorizes operation of Nine Mile Point Nuclear Station, Unit 2 (the facility or NMP2), at a steady-state reactor power level not in excess of 3323 megawatts thermal. The facility is a boiling water reactor located at the licensee's site in Oswego County, New York. The license provides, among other things, that it is subject to all rules, regulations, and Orders of the U.S. Nuclear Regulatory Commission (the Commission or NRC) now or hereafter in effect.

II.

Section III of Appendix J to 10 CFR Part 50 requires the development of a program to conduct periodic leak testing of the primary reactor containment and related systems and components, and components penetrating the primary containment pressure boundary. The interval between local leak rate tests for Type B tests is specified by Section III.D.2 to be no greater than 2 years.

III.

By letter dated May 28, 1993, NMPC requested a one-time only schedular exemption until the end of the 1993 refueling outage (currently scheduled to begin on October 1, 1993) from the requirements of 10 CFR Part 50, Appendix J, Section III.B., regarding Type B tests of the expansion bellows in four Traversing Incore Probe containment penetrations (2NMT*Z31A, C, D, and E). The requested exemption would permit continued reactor operation as well as other activities (e.g., maintenance and refueling operations, surveillance tests, etc.) until the end of the 1993 refueling outage. Otherwise, the required testing would require a plant shutdown solely to perform the required leak tests.

IV.

Section III.D.2 of Appendix J to 10 CFR Part 50 states that Type B tests shall be performed during reactor shutdowns for refueling, at an interval not to exceed 2 years. However, due to an oversight, the expansion bellows in the four penetrations have not been Type B tested to date. These bellows cannot be Type B tested during reactor operations. Therefore, to preclude a reactor shutdown solely to perform the required tests, the licensee has requested a one-time exemption from the leak test requirements of 10 CFR Part 50, Appendix J, until the 1993 refueling outage when these bellows will be Type B tested as required by the regulations.

The 2-year interval requirement for Type B testing is intended to be often enough to preclude significant deterioration between tests and long enough to permit the tests to be performed during routine plant outages. Leak

rate testing of containment penetrations during plant shutdown is preferable because of the lower radiation exposures to plant personnel. Furthermore, some containment penetrations, including the four subject penetrations, cannot be tested at power. For those penetrations that cannot be tested during power operation, or for which testing at power would yield unnecessary radiation exposure of personnel, the Commission staff believes the increase in confidence of containment integrity following a successful test is not significant enough to justify the hardships and costs associated with a plant shutdown specifically to perform the required tests prior to the 1993 refueling outage.

V.

The Commission has determined that pursuant to 10 CFR 50.12(a)(1) this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii) and (iii) are present justifying the exemption; namely, that: (1) application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule and (2) compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted.

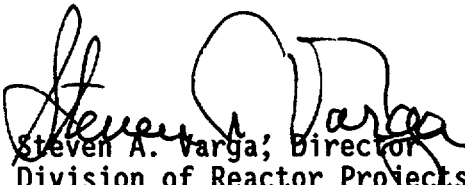
The underlying purpose of Section III.D.2 of Appendix J to 10 CFR Part 50 is to provide an interval short enough to prevent serious deterioration from occurring between tests and long enough to permit testing to be performed during regular plant outages. For containment penetrations, such as the four subject penetrations, that cannot be tested at power, the

increased confidence in containment integrity following successful testing is not significant enough to justify a plant outage solely to perform the tests prior to the 1993 refueling outage. A plant shut down solely to perform the required test would be an undue hardship. The licensee has presented information accepted by the Commission, which gives a high degree of confidence that the components affected by this exemption will not degrade to an unacceptable extent. The details of the NRC staff's review of the licensee's exemption request are discussed in a safety evaluation dated August 11, 1993. Acceptable leakage limits are defined in Section III.B.3(a) of Appendix J to 10 CFR Part 50.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this Exemption will not have a significant impact on the environment (58 FR 37759).

This Exemption is effective upon issuance and shall expire at the end of the 1993 refueling outage which is currently scheduled to begin on October 1, 1993.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 11 day of August 1993



UNITED STATES
NUCLEAR REGULATORY COMMISSION
 WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SCHEDULAR EXEMPTION FROM APPENDIX J INTERVAL

FOR TYPE B LEAK RATE TESTING OF FOUR CONTAINMENT PENETRATIONS

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT 2

DOCKET NO. 50-410

1.0 INTRODUCTION

By letter dated May 28, 1993, Niagara Mohawk Power Corporation (NMPC) requested a schedular exemption pursuant to 10 CFR 50.12(a) from the requirements of 10 CFR 50, Appendix J, Section III.B, for Nine Mile Point Nuclear Station, Unit 2 (NMP-2). NMPC requested temporary relief from the requirement to perform Type B local leak tests (LLRTs) at intervals of no greater than 2 years for the expansion bellows in four Traversing Incore Probe (TIP) containment penetrations (2NMT*Z31A, C, D, and E). A one-time only delay, until the end of the 1993 refueling outage (currently scheduled to begin on October 1, 1993) was requested for the performance of these leak tests. This request was necessitated to avoid a plant shutdown solely to perform the required leak tests.

2.0 EVALUATION

Appendix J of 10 CFR Part 50 requires Type B testing of the expansion bellows in the four subject TIP containment penetrations at intervals no greater than every 2 years to demonstrate the integrity of the NMP-2 containment. The TIP penetrations are listed in the NMP-2 Updated Safety Analysis Report (USAR) Table 6.2-56 with Note 34 applicable. Note 34 states, "The metal bellows at the end of the TIP system drywell penetration flanges will be included in Type A testing. The flanges themselves and the midspan flange in 2NMT*Z31B will be subject to Type B testing." On April 23, 1993, the licensee determined that the bellows in the four subject penetrations were not in compliance with the requirements of 10 CFR Part 50, Appendix J, in that these bellows had been Type A tested rather than the required Type B tested. Further investigation by the licensee determined that this noncompliance (Type A testing versus Type B testing) has existed since issuance of the facility operating license on October 31, 1986.

Note 34 was added to USAR Table 6.2-56 by the licensee via Licensing Document Change Notice (LDCN) #1458, dated November 29, 1984; however, no justification or backup data could be located to substantiate the addition of Note 34 or to indicate NRC approval of Type A testings. When LDCN #1458 was issued in 1984,

the licensee had no method for performing Type B tests of these bellows. Such methods are now available. The Final Safety Analysis Report was subsequently interpreted by the licensee to imply that a Type A test only was acceptable for testing these bellows.

The maximum allowable overall containment leakage rate (L_a) is limited by TS 3.6.1.2 to 1.1 weight percent of containment air per day at the peak accident pressure of 39.75 psig during Type A tests. The maximum allowable combined leakage from all penetrations subject to Type B and Type C tests is limited to $0.6 L_a$. The most recent Type A test performed in January 1991 measured the overall containment leakage to be 0.305 percent per day. This value includes the TIP penetrations as well as the other Type B and Type C leakage paths. The combined Type B and Type C leakage was 0.211 percent per day. The unaccounted leakage of 0.094 percent per day is attributed to the containment liner, TIP penetrations, etc. Therefore, even if all the unaccountable leakage was associated with the TIP penetrations, the combined leakage of TIP penetrations and that measured from the other Type B and Type C penetrations would still be less than the allowable leakage of $0.6 L_a$ or 0.66 percent per day.

The metal expansion bellows are provided to absorb the relative movements between the primary and secondary containment that result from seismic, loss-of-coolant accidents, and suppression pool hydrodynamic events. Under normal operating conditions, these differential movements are very small. These bellows have not been exposed to the more frequent large movements and vibrations to which a process piping penetration may be exposed. For this reason, these bellows have not been subjected to the level of degradation that a more active bellows might experience due to fatigue of the metallic convolutions. Additionally, visual examinations conducted during April 1993 did not show any visible degradation.

Therefore, since the January 1991 Type A test demonstrated that the subject TIP penetrations were not leaking excessively and since there is no evidence of any subsequent degradation, the NRC staff has concluded that Type B testing of these penetrations is not necessary at this time to demonstrate the integrity of the NMP-2 containment.

Type B testing of the TIP containment penetrations requires entry into the drywell. The drywell is inaccessible during reactor operations since it is inerted and contains a nitrogen atmosphere. Access into the drywell requires a reactor shutdown and deinerting of the drywell. Therefore, the NRC staff has concluded that a reactor shutdown and deinerting of the drywell solely to perform Type B testing of the subject penetrations would result in an unnecessary and undue hardship on the licensee.

The exemption provides only temporary relief from the requirements to perform Type B tests at least every 2 years since the exemption will expire at the end of the 1993 refueling outage.

3.0 CONCLUSION

Based on the above evaluation, the NRC staff finds the requested schedular exemption, to delay performance of Type B testing of four TIP containment penetrations until the 1993 refueling outage, to be acceptable. The exemption will expire at the end of the 1993 refueling outage.

Principal Contributor:
Donald S. Brinkman

Date: August 11, 1993

increased confidence in containment integrity following successful testing is not significant enough to justify a plant outage solely to perform the tests prior to the 1993 refueling outage. A plant shut down solely to perform the required test would be an undue hardship. The licensee has presented information accepted by the Commission, which gives a high degree of confidence that the components affected by this exemption will not degrade to an unacceptable extent. The details of the NRC staff's review of the licensee's exemption request are discussed in a safety evaluation dated August 11, 1993. Acceptable leakage limits are defined in Section III.B.3(a) of Appendix J to 10 CFR Part 50.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this Exemption will not have a significant impact on the environment (58 FR 37759).

This Exemption is effective upon issuance and shall expire at the end of the 1993 refueling outage which is currently scheduled to begin on October 1, 1993.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Steven A. Varga, Director
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
 this 11 day of August 1993
 *See previous concurrence

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Mr. B. Ralph Sylvia

- 2 -

August 11, 1993

Copies of the Exemption and the NRC staff's supporting safety evaluation are enclosed. The Exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Original signed by:

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

Enclosure:

1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

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