

UNITED STATES
NUCLEAR REGULATORY COMMISSION

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In the Matter of
Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)
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Docket No. 50-410

APPLICATION FOR EXEMPTION
FROM CERTAIN REQUIREMENTS
OF
10 CFR 50 APPENDIX J

Pursuant to Section 50.12 OF THE Commission's Regulations (10 CFR 50.12), Niagara Mohawk Power Corporation, holder of a facility construction permit authorizing the construction of the Nine Mile Point Nuclear Station Unit 2 (Docket No. 50-410), hereby makes application for exemption from certain provisions of 10 CFR 50 Appendix J, "Reactor Containment Leakage Testing For Water Cooled Power Reactors." The specific exemption requested is stated below. Justification demonstrating that the proposed exemption will not endanger life or property or the common defense and security and is otherwise in the public interest is included.

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Appendix J of 10 CFR 50 requires inter alia preoperational and periodic verification by tests of the leak-tight integrity of systems and components which penetrate primary containment of water-cooled power reactors. Niagara Mohawk Power Corporation hereby requests exemption from the testing requirements set forth in 10 CFR 50 Appendix J for the isolation valves on the Traversing Incore Probe System. The justification for this requested exemption is provided in Attachment A.

WHEREFORE, the Applicant respectfully requests that the proposed exemption to the requirements of 10 CFR 50 Appendix J for said isolation valves be granted.

Niagara Mohawk Power Corporation

By *C. Mangano*

Subscribed and sworn to before me on
this 11 day of February, 1985

Jamie M. Macro
Notary Public

JAMIE M. MACRO
Notary Public in the State of New York
Qualified in Onondaga County No. 4792555
My Commission Expires March 30, 1985



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ATTACHMENT A

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TRaversing INCore PROBE (TIP) SYSTEM

SYSTEM DESCRIPTION

GDC 54 requires that piping systems penetrating primary containment shall be provided with leak detection, isolation, redundancy and performance capabilities reflecting the importance to safety.

GDC 57 requests that lines penetrating primary containment and neither part of the reactor coolant boundary nor directly connected to the containment atmosphere shall have one outside isolation valve either automatic, locked closed or capable of remote manual operation.

The TIP System meets the intent of GDC 54, but the design basis of the TIP System is more closely described by GDC 57 for the following reasons. Although the TIP tubing penetrates containment, it is not connected to the reactor coolant or primary containment atmosphere. The TIP tube is (provided with a nitrogen purge) pressurized during normal operation to ensure only in-leakage into the primary containment. In the event of a LOCA, the purge system that maintains the TIP pressure may not be available, so leakage may occur. The TIP probe is normally withdrawn and the ball valve closed. However, if the accident occurred with the TIP probe inserted, the leakage into the TIP tube would be very little and very slow since the tubing is almost completely filled with the TIP probe, leaving only a small annular flow area.

ISOLATION CAPABILITIES

Isolation is accomplished by a seismically qualified solenoid-operated ball valve, which is normally closed. (It is open about four hours/month.) To ensure isolation capability, an explosive shear valve is installed in each line. When the TIP system cable is inserted, the ball valve of the selected tube opens automatically so that the probe and cable may advance. If closure of the line is required during this time, a signal causes the cable to be retracted and the ball valve to close automatically after completion of cable withdrawal. If a TIP cable fails to withdraw or a ball valve fails to close, the explosive shear valve will be manually activated.



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The TIP system is designed to preclude leakage from the primary containment atmosphere into the TIP tubing. However, if this does occur, the TIP leakage would be small due to the TIP probe and cable in the tubing which takes up most of the cross sectional area in the tubing.

VALVE TESTING

Because of the short operation time (four hours/month) and the small leakage potential, it is our position that Type C testing is not warranted. An appropriate test procedure for Type C testing would involve entering the containment, disconnecting the line from the TIP indexer and connecting a pressure supply to the line and the valves. (Since the TIP System is not specifically designed for Type C testing, these activities are estimated to take 3-5 hours per line. There are five lines.) Furthermore, the valves are located in a sealed housing. After the test, the lines would have to be repurged to prevent contamination with dirt and moisture.

Any testing would need to be performed from inside the drywell exposing the operator to radiation dose estimated to be about 200 to 500 mR/hr 30 days after shutdown. The total manrem per outage for the ball valve Type C testing is estimated to be 3 rem to 12.5 rem.

CONCLUSION

These lines should, therefore, be exempted from 10CFR Appendix J, Type C tests.



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AFFIDAVIT

C. V. Mangan, being duly sworn, states that he is Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

C. V. Mangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Orangeta, this 11 day of February, 1985.

Janis M. Macro
Notary Public in and for
Orangeta County, New York

My Commission expires:

JANIS M. MACRO
Notary Public in the State of New York
Qualified in Onondaga County, New York
My Commission expires on 12/31/85.

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