UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of NIAGARA MOHAWK POWER CORPORATION, et. al. (Nine Mile Point Nuclear Station Unit 1)	)))))))	Docket No. 50-220

EXEMPTION

I.

Niagara Mohawk Power Corporation, et. al. (the licensee) is the holder of Facility Operating License No. DPR-63, which authorizes operation of the Nine Mile Point Nuclear Station Unit No. 1 at a steady-state power level not in excess of 1850 megawatts thermal. The facility is a boiling water reactor located at the licensee's site in the town of Scriba, New York. The license provides, among other things, that it is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

II.

Appendix J to 10 CFR Part 50 requires that primary reactor containments shall meet certain containment leakage test requirements. Among these are the requirements that containment isolation valves receive local leak rate tests (Type C) and the results of all of the Type C tests are to be added to the results of the Type B tests and the combined leakage rate shall be less than 0.60 L_a.

III.

By letter dated May 6, 1988, the staff sent to the licensee a Safety Evaluation (SE) concerning a review of a portion of the licensee's containment leakage rate testing program. One conclusion of that SE was that Appendix J to 10 CFR Part 50 requires Type C tests to be periodically performed on the four containment isolation valves in the condensate return lines from the emergency condensers (also known as the reactor isolation condensers).

Consequently, by letter dated June 23, 1988, the licensee requested a temporary, schedular exemption from certain requirements of Appendix J to 10 CFR Part 50. Specifically, the licensee requested a temporary exemption from the requirement to perform Type C testing of containment isolation valves 39-03, -04, -05, and -06 in the emergency condenser condensate return lines, and from the requirement to include the leakage rates of these valves in the sum of all Type B and C leakage rates for comparison to the acceptance criterion (0.60 L_a) of Appendix J. The requested exemption is for the period up to and including the next plant refueling outage, currently scheduled for 1990.

IV.

In the past, the licensee had not included the subject valves in the Type C testing program. The licensee did not consider them to be containment isolation valves, but to be system process control valves. However, as stated above, the staff has recently determined that these valves must be Type C tested.

A recent attempt was made to perform a local leakage rate test on the emergency condenser condensate return line valves. However, since these valves were not originally designed to meet Appendix J leakage rate testing requirements and had not been locally leakage rate tested in the past, the valves were found to exhibit leakage rates greater than that allowed by Appendix J. In fact, it was difficult to establish a pressurization condition between the valves. This was particularly true relative to the inside check valves, which were designed to be held tightly closed by water at high reactor pressure (1,000 psig), whereas the Type C test is run with relatively low air pressure conditions (35 psig).

In order to leak test these valves, a number of system changes will be necessary. The check valves, which were not designed for low pressure testing, may need to be replaced if they cannot be repaired or modified to consistently meet the required leakage rate. Additionally, leak-tight test block valves and test taps may need to be installed in order to perform appropriate Appendix J tests. If the block valves leak, then they will need to be repaired or replaced. This repair is difficult with water in the reactor vessel. A major effort is required to install plugs in the recirculation lines to facilitate this repair operation. Therefore, major system changes may be necessary in addition to the procurement of replacement valves for the current valves. The licensee states that these new valves require a lead time of approximately 12 months, and the development and installation of the required changes may take 18 to 24 months. Therefore, the licensee will not be able to install or appropriately test the valves prior to

startup from the next refueling outage. The requested exemption would provide the time necessary to complete the modifications so that successful testing can be conducted.

The following information was provided by the licensee in support of the exemption request.

The valves in the emergency condenser system would not normally be closed and therefore performing a containment isolation function during a Design Basis Accident (DBA) Loss of Coolant Accident (LOCA). In fact, it is normally important for the subject valves to be open in order to assure that adequate Emergency Core Cooling System (ECCS) makeup is delivered to the reactor for those breaks where the system is expected to operate. The emergency condenser system is therefore designed, operated, and maintained to a quality of safety consistent with its core cooling function. The emergency condenser system is poised for service during normal operation with the steam supply line valves open and the condensate return line air-operated valves closed. Under accident conditions, the outside air-operated condensate isolation valves 39-05 and 39-06 will automatically open and initiate the emergency condenser system service on high reactor pressure or low-low water level in the reactor vessel.

The emergency condenser system will automatically isolate if the integrity of the system is significantly compromised (e.g., multiple condenser tube breaks, piping system breaks). High steam flow monitors initiate the isolation action by closing the steam supply valves. High radiation levels in either the primary or the secondary side of the condensers are detected by radiation monitors and the abnormal conditions are brought to the reactor operator's attention. The operator is also capable of monitoring not only the

radiation level at the condenser, but also the shell side temperature and water level and the vent steaming conditions. Any indication of a system integrity loss will result in a manual steam isolation.

As is cited above, the subject air-operated valves 39-05 and 39-06 and the check valves 39-03 and 39-04 are closed during normal plant operation. If these valves exhibit sufficient leakage (10 gpm) during normal operation, the leakage can be readily detected by steaming from the condenser vent or a reactor coolant system heat imbalance. Temperature detectors are also located at the isolation valves. These monitors will indicate and alarm on abnormal leakage. If leakage occurs, it will be quickly identified and the reactor will be shut down if the leakage is excessive. The valve is then required to be repaired to prevent steam and/or condensate from leaking into or out of the reactor coolant system via the valves. Therefore, during normal operation these valves receive a continuous leak-tightness check. In addition to the above, a system integrity check of the emergency cooling system is performed per Technical Specification 6.14.

Based on the above information, the staff finds that the subject valves are designed to be, and would normally be, open during a LOCA and would only be required to close in the event of system leakage outside containment, which is periodically checked per Technical Specification 6.14. Also, although not equivalent to Type C testing, the valves receive, in effect, a continuous gross leak-tightness check through monitoring the system indications and alarms described above. Therefore, the staff finds that plant operation without Type C testing of the subject valves, and consequently, without adding the result of these Type C tests into the summation of leakages for

comparison to the 0.60 L_a acceptance criterion, during the period until the next refueling outage will not present an undue risk to the public health and safety, considering the low probability of a LOCA during which the emergency condenser system would be required to be isolated during that limited period and the mitigating features of the system, described above. After the next refueling outage is complete, the plant will be brought into compliance with Appendix J in that the subject valves will be Type C tested.

V.

On the basis of the above evaluation, the staff concludes that the requested temporary, schedular exemption from the Type C testing requirements of Appendix J to 10 CFR Part 50 for emergency condenser condensate return line valves 39-03, -04, -05, and -06, and, consequently, the omission of the results of these Type C tests from the summation of leakages for comparison to the 0.60 L_a acceptance criterion, is justified for the period up to and including the next refueling outage for Nine Mile Point, Unit 1.

Accordingly, the Commission has determined pursuant to 10 CFR 50.12(a), that (1) this exemption as described in Section IV 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, and (2) special circumstances are present for this exemption in that the exemption would provide only temporary relief from the applicable regulation and the licensee has made good faith efforts to comply with the regulation since the staff's position was sent to them on May 6, 1988. Therefore, the Commission hereby grants the exemption request identified in Section IV above.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (53 FR 37376).

Dated at Rockville, Maryland, this 17th day of October 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by

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

*SEE PREVIOUS CONCURRENCE

PDI-1	PDI-1	PDI-1	OGC	ADR	DRP:DSRP
*CVogan	*MHaughey:dlg	RCapra	*SHLewis	BBoger	SVarga
9/26/88	9/27/88	10/13/88	10/5/88	10/14/88	10/1 /88
10/12	10/13/88				

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Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the environment (53 FR)

Dated at Rockville, Maryland, this day of 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

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

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No legal objection subject to correction noted & resolution of issues raised in OGC note.

Discussed with S. Lewis on 10/11. Issue resolved. Corrections noted will be made. M F Haughey.