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

June 2, 1994

Docket No. 50-220

Mr. B. Ralph Sylvia
Executive Vice President, Nuclear
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
P.O. Box 63
Lycoming, New York 13093

Dear Mr. Sylvia:

SUBJECT: CHANGE TO THE BASES FOR TECHNICAL SPECIFICATIONS 3.1.3 AND 4.1.3 FOR NINE MILE POINT NUCLEAR STATION UNIT NO. 1 (TAC NO. M88630)

By letter dated January 21, 1994, Niagara Mohawk Power Corporation (NMPC), proposed changes to the Bases for Technical Specifications (TSs) 3.1.3 and 4.1.3 (Emergency Cooling System) for Nine Mile Point Nuclear Station Unit No. 1 (NMP-1). The January 21, 1994, letter was supplemented by NMPC's letter dated May 27, 1994, which was submitted in response to the NRC staff's request for additional information dated March 31, 1994. NMPC stated that the proposed changes would more accurately reflect the minimum and maximum water volume in each Emergency Cooling System (ECS) condenser shell.

The NRC staff had identified concerns regarding the maximum water level in the ECS condenser shells in combined Inspection Report 50-220/93-10 and 50-410/93-10 dated July 9, 1993. Therefore, NMPC initiated a review of the design basis for the maximum water level in the ECS condenser shells.

The ECS is a passive standby system provided for the removal of decay heat from the reactor coolant system without the loss of reactor coolant after a reactor scram, when the main condenser is not available as a heat sink, or in the event of a loss of reactor feedwater. The ECS consists of two redundant loops with each loop containing two emergency condensers.

The TS Bases for the ECS currently read, in part, as follows:

> The initial water volume in each emergency condenser is 21,360 ± 1500 gallons which keeps the level within ± 6 inches of the normal water level.

The NMP-1 Updated Final Safety Analysis Report (UFSAR) is consistent with the TS Bases in that it states, "Each of the two independent emergency cooling loops includes two condensers consisting of a tube bundle in a tank containing between 19,860 and 22,860 gal of water...."

NMPC's review of the ECS design basis disclosed that the volume of water identified in the TS Bases and in the UFSAR is actually the total volume of water for each ECS loop and, therefore; the specified volume of water in each of the two condensers in each loop should be 10,680 ± 750 gallons. NMPC's review also determined that the maximum water level in each condenser could be increased to the condenser shell overflow line while maintaining the system's original design basis and margin of safety. As part of this design basis review, NMPC determined that to be consistent with the original design basis, the minimum required water volume should be specified as 10,380 gallons. To provide additional conservatism, NMPC proposed increasing the minimum required water level in each condenser to 10,680 gallons. NMPC has proposed to implement this change to the TS Bases by revising the TS Bases to read as follows:

> The minimum water volume in each emergency condenser is 10,680 gallons and the maximum emergency condenser shell side water level is limited to the elevation of the shell overflow lines in each tank.

The proposed changes are consistent with the original design basis of the NMP-1 ECS; therefore, the NRC staff offers no objection to the proposed changes. NMPC has also committed to make corresponding changes in Revision 12 of the UFSAR, scheduled for submittal to the NRC in June 1994.

Enclosed is a copy of revised Bases page 52. All NRC staff activities related to TAC No. M88630 are considered complete.

Sincerely,

Donald S. Brinkman

Donald S. Brinkman, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
TS Bases Page 52

cc w/enclosure:
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The turbine main condenser is normally available. The emergency cooling system (Section V-E)* is provided as a redundant backup for core decay heat removal following reactor isolation and scram. One emergency condenser system has a heat removal capacity at normal pressure of 19.0×10^7 Btu/hr, which is approximately three percent of maximum reactor steam flow. This capacity is sufficient to handle the decay heat production at 100 seconds following a scram. If only one of the emergency cooling systems is available, 2000 pounds of water will be lost from the reactor vessel through the relief valves in the 100 seconds following isolation and scram. This represents a minor loss relative to the vessel inventory of about 450,000 pounds (Section V-E.3.1)*.

The required heat removal capability is based on the data of Table V-1* adjusted to normal operating pressures. The only difference is manual system initiation rather than automatic initiation.

The system may be manually initiated at any time. The system is automatically initiated on high reactor pressure in excess of 1080 psig sustained for 12 seconds. The time delay is provided to prevent unnecessary actuation of the system during anticipated turbine trips (Section XV-B.3.15)*. Automatic initiation is provided to minimize the coolant loss following isolation from the main condenser.** To assist in depressurization for small line breaks the system is initiated on low-low reactor water level five feet (5 inches indicator scale) below the minimum normal water level (Elevation 302'9") sustained for 12 seconds. The timers for initiation of the emergency condensers will be set at 12 seconds delay based on the analysis (Section XV-B.3.15)*. For the MSIV closure analysis (Section XV-B.3.5)*, emergency condenser action is ignored.

The minimum water volume in each emergency condenser is 10,680 gallons and the maximum emergency condenser shell side water level is limited to the elevation of the shell overflow lines in each tank. About 72,000 gallons are available from the two gravity feed condensate storage tanks. To assure this gallonage, a level check shall be done at least once per day.

This is sufficient to provide about eight hours of continuous system operation. This time is sufficient to restore additional heat sinks or pump makeup water from the two-200,000 gallon condensate storage tanks. The fire protection is also available as a makeup water supply.

*UFSAR

**Technical Supplement to Petition to Increase Power Level

NMPC's review of the ECS design basis disclosed that the volume of water identified in the TS Bases and in the UFSAR is actually the total volume of water for each ECS loop and, therefore; the specified volume of water in each of the two condensers in each loop should be 10,680 ± 750 gallons. NMPC's review also determined that the maximum water level in each condenser could be increased to the condenser shell overflow line while maintaining the system's original design basis and margin of safety. As part of this design basis review, NMPC determined that to be consistent with the original design basis, the minimum required water volume should be specified as 10,380 gallons. To provide additional conservatism, NMPC proposed increasing the minimum required water level in each condenser to 10,680 gallons. NMPC has proposed to implement this change to the TS Bases by revising the TS Bases to read as follows:

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Sincerely,
ORIGINAL SIGNED BY:

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Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
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