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

December 7, 1992

Docket No. 50-220

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

Dear Mr. Sylvia:

SUBJECT: CHANGE TO THE BASES FOR TECHNICAL SPECIFICATIONS 3/4.1.3 AND 3/4.6.2 FOR NINE MILE POINT NUCLEAR STATION UNIT NO. 1 (TAC NO. M83147)

By letter dated March 20, 1992, Niagara Mohawk Power Corporation (NMPC), proposed changes to the Bases for Technical Specifications (TS) 3/4.1.3 (Emergency Cooling System) and TS 3/4.6.2 (Protective Instrumentation) for Nine Mile Point Unit No. 1. The proposed changes would increase the setpoint for the Emergency Cooling System (ECS) automatic initiation time delay from 10 seconds to 12 seconds. By letter dated November 24, 1992, NMPC provided further revisions to the Bases for TS 3/4.1.3 and 3/4.6.2. The further revisions provide updated references in these Bases. These Bases now reference the Updated Final Safety Analysis Report (UFSAR) rather than the original Final Safety Analysis Report (FSAR).

The purpose of this time delay is to prevent unnecessary actuation of the ECS during turbine trips. The current value (10 seconds) of this time delay is specified in the Bases for TS 3/4.1.3 and TS 3/4.6.2. The setpoint of this time delay was changed from 10 seconds to 12±1 seconds in Revision 9 to the UFSAR (Section V.E.2); the proposed change to the Bases for TS 3/4.1.3 and TS 3/4.6.2 would make these Bases consistent with the UFSAR.

A turbine trip with actuation of the turbine bypass valves causes the reactor pressure to exceed the ECS actuation pressure for approximately 6.6 seconds. The time delay should be set to exceed the duration of this overpressure transient to avoid unnecessary actuation of the ECS. Also, the upper limit of this time delay should not exceed the assumed actuation time of 15 seconds for the ECS during a Main Steam Line Isolation Valve Closure transient. NMPC stated that the proposed setpoint of 12 seconds has been evaluated with respect to the effects of calibration uncertainties, instrument drift, and loop accuracies. The current setpoint of 10 seconds and the proposed setpoint of 12 seconds both satisfy these criteria and therefore, we offer no objection to the proposed change.

Enclosed are copies of the revised Bases pages 49 and 235; these pages contain references to the UFSAR. All NRC staff activities related to TAC No. M83147 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

Enclosures:
Bases Pages 49 and 235

cc w/enclosures:
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cc:

Mark J. Wetterhahn, Esquire
Winston & Strawn
1400 L Street, NW
Washington, DC 20005-3502

Supervisor
Town of Scriba
Route 8, Box 382
Oswego, New York 13126

Mr. Joseph F. Firlit
Vice President - Nuclear Generation
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Post Office Box 32
Lycoming, New York 13093

Resident Inspector
U.S. Nuclear Regulatory Commission
Post Office Box 126
Lycoming, New York 13093

Gary D. Wilson, Esquire
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Ms. Donna Ross
New York State Energy Office
2 Empire State Plaza
16th Floor
Albany, New York 12223

Mr. Kim Dahlberg
Unit 1 Station Superintendent
Nine Mile Point Nuclear Station
Post Office Box 32
Lycoming, New York 13093

Mr. David K. Greene
Manager Licensing
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Charles Donaldson, Esquire
Assistant Attorney General
New York Department of Law
120 Broadway
New York, New York 10271

Mr. Paul D. Eddy
State of New York
Department of Public Service
Power Division, System Operations
3 Empire State Plaza
Albany, New York 12223

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

a. The set points included in the tables are those used in the transient analysis and the accident analysis. The high flow set point for the main steam line is 105 psi differential. This represents a flow of approximately 4.4 X 10^6 lb/hr. The high flow set point for the emergency cooling system supply line is ≤ 11.5 psi differential. This represents a flow of approximately 9.8 X 10^5 lb/hr at rated conditions.

Normal background for the main steam line radiation monitors is defined as the radiation level which exists in the vicinity of main steam lines after 1 hour or more of sustained full rated power. The dose rate at the monitor due to activity from the control rod drop accident of UFSAR Section XV-C.4 or from gross failure of one rod with complete fission product release from the rod would exceed the normal background at the monitor. The automatic initiation signals for the emergency cooling systems have to be sustained for more than 12 seconds to cause opening of the return valves. If the signals last for less than 12 seconds, the emergency cooling system operating will not be automatically initiated.

The high level in the scram discharge volume is provided to assure that there is still sufficient free volume in the discharge system to receive the control rod drives discharge. Following a scram, bypassing is permitted to allow draining of the discharge volume and resetting of the reactor protection system relays. Since all control rods are completely inserted following a scram and since the bypass of this particular scram initiates a control rod block, it is permissible to bypass this scram function. The scram trip associated with the shutdown position of the mode switch can be reset after 10 seconds.

The condenser low vacuum, low-low vacuum and the main steam line isolation valve position signals are bypassed in the startup and refuel positions of the reactor mode switch when the reactor pressure is less than 600 psig. These are bypassed to allow warmup of the main steam lines and a heat sink during startup.

Enclosed are copies of the revised Bases pages 49 and 235; these pages contain references to the UFSAR. All NRC staff activities related to TAC No. M83147 are considered complete.

Sincerely,

Original Signed By:

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

Enclosures:
Bases Pages 49 and 235

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