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

November 13, 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: SAFETY EVALUATION OF RESPONSES TO NRC BULLETIN 88-08 AND SUPPLEMENTS FOR NINE MILE POINT NUCLEAR STATION, UNIT NO. 1 (TAC NO. M69655)

By letter dated September 29, 1988, Niagara Mohawk Power Corporation (NMPC) responded to NRC Bulletin 88-08, "Thermal Stresses in Piping Connected To Reactor Coolant Systems," and Supplements 1 and 2. That response identified three systems (Reactor Head Spray Line, Feedwater System at the reactor feedwater nozzles and the Reactor Water Cleanup System mixing tee, and Emergency Cooling System condensate return lines) as potentially susceptible to the thermal cycling fatigue phenomena described in the bulletin. By letter dated December 16, 1991, NMPC supplemented its September 29, 1988, response and stated it had instituted modifications and operational changes to the Reactor Head Spray Line and the Feedwater System in accordance with Option 1 of Action 3 of NRC Bulletin 88-08.

NMPC's December 16, 1991, submittal stated that the Emergency Cooling System condensate return line had been examined and that no evidence of cracks or rejectable indications had been found. This submittal also discussed an evaluation performed by ABB Impell Combustion Engineering (CE), under contract to NMPC, of the Emergency Cooling System. This evaluation used measured leakage rates and industry-based data on turbulence penetration and concluded that unisolable sections of the condensate return lines were not subjected to temperature distributions which would result in unacceptable thermal stresses during normal plant operation.

By letter dated July 20, 1992, NMPC provided information which modified its December 16, 1991, response to NRC Bulletin 88-08. This submittal provided an evaluation of thermal fatigue cracks that had recently been discovered in the bodies of Emergency Cooling System condensate return line isolation valves and provided a commitment to implement a temperature monitoring program for the unisolable portions of the system in accordance with Option 2 of Action 3 of NRC Bulletin 88-08. NMPC also indicated in this submittal that data obtained from the temperature monitoring program would be used to determine the apparent causes of thermal cycling and ultimately provide the basis for modifications and/or operational changes to eliminate/control the thermal cycling. The submittal of July 20, 1992, stated that NMPC would provide the NRC details of the modification plans when they have been finalized.

The NRC staff has completed its review of the NMPC responses to NRC Bulletin 88-08, as documented in the enclosed safety evaluation. We have concluded that the CE analysis does not provide the assurance requested by Action 3 of the bulletin, that the unisolable sections of the Emergency Cooling System condensate return lines will not be subjected to cyclic thermal stresses which could cause fatigue failure during the life of the plant. However, since NMPC is not now relying on the results of the CE analysis and has instituted an appropriate temperature monitoring program, we have also concluded that NMPC's actions to address concerns for the Head Spray Line, Feedwater System, and Emergency Cooling System are consistent with the options provided in Action 3 of the bulletin and are therefore acceptable. Consequently, we consider this action complete and TAC No. M69665 is closed. Further NRC review of the NMPC responses to NRC Bulletin 88-08, if any, will be performed by inspection or audit.

In accordance with NMPC's July 20, 1992, commitment to apprise the NRC of any Emergency Cooling System modifications and/or operational plans to eliminate/control the thermal cycling, please notify us in writing when such plans have been finalized and when any necessary modifications have been implemented.

This requirement affects one respondent and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,

Donald S. Brinkman

Donald S. Brinkman, Senior Project Manager
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Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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