



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20565-0001

August 12, 1998

50-410

Mr. John H. Mueller
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Operations Building, Second Floor
Lycoming, NY 13093

SUBJECT: REVIEW OF INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS, NINE MILE POINT NUCLEAR STATION, UNIT NO. 2 (TAC NO. M83646)

Dear Mr. Mueller:

By letter dated June 30, 1995, as supplemented February 12, 1996, Niagara Mohawk Power Corporation (NMPC or licensee) responded to Supplement 4 to Generic Letter (GL) 88-20, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities - 10 CFR 50.54(f)," for Nine Mile Point Nuclear Station, Unit 2 (NMP2). The NRC staff, with the technical assistance of a contractor, Energy Research, Incorporated, has completed a "Step 1" review that examined the reasonableness of your IPEEE results considering the design and operation of the plant. On the basis of the review performed by our contractor and by an NRC senior review board, the NRC staff has concluded that your evaluations have adequately addressed the aspects of earthquakes, fires, high winds, floods, transportation accidents, and other external events. Enclosure 1 is the NRC staff's evaluation regarding our review of your IPEEE submittals for NMP2. Enclosure 2 is our contractor's associated Technical Evaluation Report (TER).

As indicated in your response, NMPC initially performed an EPRI seismic margins assessment (SMA) using a review level earthquake (RLE) of 0.5g for screening in the NMP2 seismic IPEEE, rather than 0.3g as recommended in NUREG-1407. NMPC concluded that NMP2 has a high confidence of low probability of failure (HCLPF) equal to or greater than 0.5g. This 0.5g plant HCLPF is for a period of 24 hours. The long-term (72-hour) make-up, which depends upon the non-safety-related nitrogen bottles, has a seismic HCLPF capacity of 0.23g. NMPC also performed a Level II seismic probabilistic risk assessment (PRA) to place the SMA results into perspective, with the intent of supporting future risk management applications. NMPC estimated the seismic core damage frequency (CDF) for NMP2 to be 1E-6/reactor-year (RY) using the seismic hazard curve developed by Lawrence Livermore National Laboratory (LLNL), and 2.5E-7/Ry using the seismic hazard curve developed by the Electric Power Research Institute (EPRI). For the fire portion of the IPEEE, NMPC utilized EPRI's Fire Induced Vulnerability Evaluation (FIVE) methodology, with NRC-recommended enhancements, and estimated the CDF due to internal fires at NMP2 to be 1E-6/Ry. For the analyses of other external events, NMPC used the progressive screening procedure as described in NUREG-1407 and concluded that the contribution from other external events (i.e., external floods and high winds) are insignificant (less than 1E-6/Ry) at the NMP2 site. NMPC estimated the CDF due to internal events to be about 3.1E-5/Ry.

NMPC did not provide its definition for a potential severe accident vulnerability and did not identify any vulnerabilities associated with external events. However, several minor plant-specific improvements in the seismic area were implemented as a result of the NMP2 IPEEE. These improvements will improve plant safety and reduce potential severe accident vulnerabilities at

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NMP2. In addition, NMPC states that it is considering potential improvements to procedures and training in response to postulated control room fires.

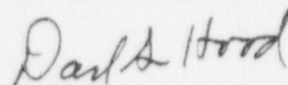
In accordance with Supplement 4 to GL 88-20, NMPC has addressed Unresolved Safety Issue (USI) A-45, "Shutdown Decay Heat Removal Requirements;" Generic Safety Issue (GSI) 103, "Design for Probable Maximum Precipitation (PMP);" GSI-57, "Effects of Fire Protection System Actuation on Safety-Related Equipment;" Fire Risk Scoping Study Issues; and USI A-17, "System Interactions in Nuclear Power Plants." NMPC stated, and the NRC staff agrees, that USI A-40, "Seismic Design Criteria," and USI A-46, "Verification of Seismic Adequacy of Equipment," are not applicable to NMP2.

NMPC's IPEEE submittal also addresses the external event aspects of certain additional generic safety issues (e.g., GSI 147, "Fire-Induced Alternate Shutdown/Control Room Panel Interactions," GSI 148, "Smoke Control and Manual Fire-Fighting Effectiveness," and GSI 172, "Multiple System Responses Program (MSRP).") The specific information associated with each issue is identified and discussed in Enclosures 1 and 2. Based upon the NRC staff's and contractor's reviews of the information contained in NMPC's submittals, the NRC staff concludes that NMPC's process is capable of identifying potential vulnerabilities associated with these issues. Since no vulnerabilities associated with the external event aspects of these issues were identified at NMP2, the NRC staff considers these issues resolved.

Accordingly, on the basis of our Step 1 review, the NRC staff concludes that NMPC's IPEEE process is capable of identifying the most likely severe accidents and severe accident vulnerabilities. Therefore, the NMP2 IPEEE has met the intent of Supplement 4 to GL 88-20.

If you have any questions regarding this matter, please contact Mr. Darl Hood by phone on (301) 415-3049 or by electronic mail at dsh@nrc.gov.

Sincerely,



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

Docket No. 50-410

Enclosures: 1. Staff Evaluation Report
2. Technical Evaluation Report ERI/NRC 95-513

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If you have any questions regarding this matter, please contact Mr. Darl Hood by phone on (301) 415-3049 or by electronic mail at dsh@nrc.gov.

Sincerely,
ORIGINAL SIGNED BY:
Darl S. Hood, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
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*See previous concurrence

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