



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

April 15, 1993

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: REGULATORY GUIDE 1.97 - BOILING WATER REACTOR NEUTRON FLUX
MONITORING (TAC NO. M69209)

Section 6.2 of Generic Letter 82-33 requested applicants and licensees to provide a report on their implementation of Regulatory Guide (RG) 1.97, Revision 2, and methods for complying with the Commission's regulations including supporting technical justification of any proposed deviations or alternatives. A large number of deviation requests were received from Boiling Water Reactor (BWR) applicants and licensees concerning neutron flux monitoring instrumentation. These requests were initially denied.

In support of these requests, the BWR Owners Group (BWROG) submitted NEDO-31558, "Position on NRC Regulatory Guide 1.97, Revision 3, Requirements for Post-Accident Neutron Monitoring System." NEDO-31558 proposed alternate criteria for neutron flux monitoring instrumentation in lieu of the Category 1 criteria stated in RG 1.97.

The staff has completed its evaluation of NEDO-31558, and by letter dated January 13, 1993, to the BWROG, issued a safety evaluation (SE) (enclosed). The SE concluded that, for current BWR operating license and construction permit holders, the criteria of NEDO-31558 are acceptable. However, for new license applications for both conventional and advanced BWR designs, the RG 1.97 criteria must be met for neutron flux monitoring instrumentation. The staff further concluded that Category 1 neutron flux monitoring instrumentation is not needed for existing BWRs to cope with a Loss-of-Coolant Accident, Anticipated Transient Without Scram, or other accidents that do not result in severe core damage conditions. Instrumentation to monitor the progression of core melt accidents is best addressed by the current severe accident management program.

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Although the enclosed SE indicates that neutron flux has been designated as a Type A variable at Nine Mile Point Unit No. 1 (NMP-1), we recognize that Niagara Mohawk Power Corporation (NMPC) has not defined Type A variables for NMP-1, but rather refers to "Emergency Operating Procedure (EOP) key parameters." As discussed in the supplemental SE attached to our letter to NMPC dated March 17, 1993, the staff has concluded that the definition of EOP key parameters is inclusive of the definition of Type A variables.

NMPC is requested to review the NMP-1 neutron flux monitoring instrumentation against the criteria of NEDO-31558 to determine whether these criteria are being met, and provide a letter to the NRC documenting the results of this review. If the criteria are not being met, NMPC should either make a commitment to meet the criteria and state when this commitment will be fulfilled, or explicitly state any deviations from the criteria and provide supporting justification.

The criteria of NEDO-31558 include the use of uninterruptible and reliable power sources. The BWR0G and the staff agree that redundant neutron flux monitoring channels should be powered from different uninterruptible power supplies (UPS), so that loss of a single UPS would not cause the loss of all channels. NMPC is, therefore, requested to perform a plant-specific evaluation to review the power supplies to neutron flux monitoring instrumentation, including recorders. This review should verify that power would not be lost during design basis events by load shedding logics or similar schemes, and that a single power supply failure would not cause the loss of all channels. The results of this review should be indicated in NMPC's response to the staff concerning this issue.

For NMP-1, neutron flux is identified as an EOP key parameter. Therefore, NMPC should review the EOPs to assure that there is no plant-specific role for neutron flux monitoring that differs from that identified in NEDO-31558. If the role of neutron flux monitoring does not differ from that identified in NEDO-31558, NMPC will not be required to upgrade its qualification to meet the Category 1 criteria.

Please notify the NRC, within 60 days of receipt of this letter, of the actions NMPC plans to take and the schedule for implementation. If you have any questions regarding this issue, please do not hesitate to contact me at (301) 504-1409.



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This request for information was approved by the Office of Management and Budget under clearance number 3150-0011 which expires June 30, 1994. Comments on burden and duplication may be directed to the Office of Management and Budget, Reports Management Room 3208, New Executive Office Building, Washington, DC 20503.

Sincerely,

Donald S. Brinkman

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

Enclosure:
Safety Evaluation

cc w/enclosure:
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Niagara Mohawk Power Corporation

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