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 AUTH. NAME AUTHOR AFFILIATION
 MANGAN, C. V. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 ADENSAM, E. G. BWR Project Directorate 3

SUBJECT: Responds to util 861024 commitments per NRC 861022 request re panel-mounted electronic equipment reliability due to loss of redundant cooling & ventilation sys to control & relay rooms.

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December 18, 1986
(NMP2L 0961)

Ms. Elinor G. Adensam, Director
BWR Project Directorate No. 3
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Washington, DC 20555

Dear Ms. Adensam:

Re: Nine Mile Point Unit 2
Docket No. 50-410

By letter dated October 24, 1986, Niagara Mohawk Power Corporation transmitted the commitments requested by the Nuclear Regulatory Commission Staff on October 22, 1986, relative to the Nine Mile Point Unit 2 Control Room Ambient Temperature Limit. The specific concerns were related to panel-mounted electronic equipment reliability in the unlikely event of a loss of redundant cooling and ventilation systems to the control and relay rooms. This letter describes our responses to these commitments.

PROPOSAL/COMMITMENT BY NIAGARA MOHAWK POWER CORPORATION

Niagara Mohawk Power Corporation proposed a change to the Technical Specification page 3/4 7-11 Surveillance Requirement 4.7.3.A to lower the maximum allowable ambient air temperature limit from 104°F to 90°F.

In addition, Niagara Mohawk Power Corporation committed to performing confirmatory testing to determine the internal panel temperature rise within the safety related control room panels. The results of this testing would be utilized to confirm that, at a control room ambient temperature of 90°F, the internal temperature of the safety related panels would be within the design temperature of 120°F. Niagara Mohawk Power Corporation committed to submit the results of this confirmatory check to the Nuclear Regulatory Commission 30 days prior to exceeding 5% power level.

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CONFIRMATORY TESTING

Mod #PN2Y86MX124 was initiated 11/3/86 to install Temperature Monitoring Instruments (thermometers) in all Category I control and relay room panels (47 total) to facilitate monitoring of internal temperatures on an hour-by-hour 24 hr./day basis to obtain necessary data. With all thermometers in place, monitoring began 11/13/86. Considering the maximum allowable ambient air temperature of 90°F for these rooms and the panel design temperature limit of 120°F, the maximum allowable delta temperature differential would be 30°F. Using the maximum delta figure of 30°F for comparison against present room ambient temperature of approximately 70°F, Engineering reviewed the data after 13 days of monitoring and observed that for 42 of the Category I panels, a maximum temperature differential of 23°F was experienced. Temperature monitoring for 42 of the panels was discontinued. Additional monitors were placed in every bay of the remaining five panels. After seven days of multi-bay temperature monitoring, it was observed that panels 2CEC*PNL837, 838, 859, 861 and 608 were experiencing temperatures above the 30°F delta. The temperature delta of one bay was 46°F. Mod #PN2Y86MX143 was initiated 11/19/86 to modify these five panels by installation of louvers on the front/rear doors to provide a means for heat dissipation and, thus, reduction in internal panel temperature. The temperature data logs (9 days worth) of the modified panels were reviewed after implementation of the louver installation. The engineering observations indicated that the internal panel temperatures of all bays of Category I control and relay room panels now comply with design limitations.

As part of the precautionary measures being taken by Niagara Mohawk Power Corporation to maintain a reasonable safety margin from the design limitation of 120°F, Engineering reviewed multi-bay panels 2CEC*PNL609, 611, 622, 623 and 899 for their potential for future modifications and increased panel loading. Although the maximum temperature differential recorded for these panels was only 22°F, these panels are also scheduled to have louvers installed on their doors in accordance with a supplement to Mod #PN2Y86MX143 (expected to be completed by 3/30/87).

Even though all Category I panels now fall within the 30°F maximum delta, Engineering has reviewed future loading potential for 2CEC*PNL837 and 608. Niagara Mohawk Power Corporation is reviewing the option of the addition of fans or roof-mounted louvers in 2CEC*PNL837 Bay C,D and 2CEC*PNL608 (all bays) for supplemental heat dissipation since their maximum delta temperature reading of 29°F approaches the 30°F maximum delta. Modifications for addition of fans or roof-mounted louvers in these panels are expected to be completed by 3/30/87.



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Ms. Elinor G. Adensam, Director
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RESULTS OF CONFIRMATORY TESTING

Based on a HVAC Linear Heat Rise, modifications already completed, and results of surveillance temperature monitoring review, the conclusion drawn is that the panel design temperature of 120°F maximum will not be exceeded in the safety related control and relay room panels if the ambient room temperature were to reach 90°F (resulting from loss of all cooling and ventilation in the control/relay rooms).

Very truly yours,



C. V. Mangan
Senior Vice President

EU/pns
2348G

xc: W. A. Cook, NRC Resident Inspector
Project File (2)



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of]
Niagara Mohawk Power Corporation] Docket No. 50-410
(Nine Mile Point Unit 2)]

AFFIDAVIT

C. V. Mangan, being duly sworn, states that he is Senior Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

C. V. Mangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 18th day of December, 1986.

Beth A. Menikheim
Notary Public in and for
Onondaga County, New York

My Commission expires:

BETH A. MENIKHEIM
Notary Public in the State of New York
Qualified in Onondaga County No. 4804074
My Commission Expires August 31, 1988

UNITED STATES
DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C.