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Niagara Mohawk

Richard B. Abbott
Vice President
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September 8, 1998
NMP1L 1359

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Subject: *Request for Additional Information Related to Generic Letter 97-04, Nine Mile Point Nuclear Station, Unit No. 1 (TAC No. MA0013)*

Gentlemen:

The NRC staff issued Generic Letter (GL) 97-04, "Assurance of Sufficient Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal Pumps," on October 7, 1997. The GL requested that licensees provide information necessary to confirm the adequacy of the net positive suction head (NPSH) available for emergency core cooling and containment heat removal pumps. By letter dated January 5, 1998, Niagara Mohawk Power Corporation (NMPC) submitted its 90-day response to GL 97-04 for Nine Mile Point Unit No. 1 (NMP1). By letter dated August 7, 1998, the NRC requested that NMPC provide additional information discussing how our GL 97-04 response related to containment overpressure compares with our current licensing bases. The Attachment to this letter provides this information.

Also, subsequent to our January 5, 1998 submittal, NMPC identified an error in that letter. Specifically, Attachment 1 to our submittal, second page, second paragraph, last sentence, incorrectly stated that "Drywell spray is initiated if the drywell pressure increases above 13 psig." In fact, NMP1 Emergency Operating Procedure N1-EOP-4, Primary Containment Control, requires containment spray to be initiated when torus pressure exceeds 13 psig. This inaccuracy does not impact the validity of the remaining information provided in our response to GL 97-04. We apologize for any inconvenience this might have caused you.

Sincerely,



Richard B. Abbott
Vice President Nuclear Engineering

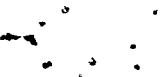
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xc: Mr. H. J. Miller, NRC Regional Administrator Region I
Mr. S. S. Bajwa, Acting Director, Project Directorate, I-1, NRR
Mr. B. S. Norris, Senior Resident Inspector
Mr. D. S. Hood, Senior Project Manager, NRR
Records Management

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ATTACHMENT

The information provided in our January 5, 1998 Generic Letter 97-04 response followed the generic template developed by the Boiling Water Reactor Owner's Group (BWROG). In an effort to provide all the aspects associated with Net Positive Suction Head (NPSH) calculations for the NMP1 Emergency Core Cooling Systems (ECCS), specifically the Core Spray System, we provided information which is not considered a design basis condition for NMP1. This information was provided in order to be responsive to the GL request while closely following the guidelines of the BWROG template.

NMPC's position is that our design basis NPSH analyses does not credit the containment overpressure that would be present after a postulated loss-of-coolant accident (LOCA). Specifically, NPSH is calculated assuming no increase in containment pressure from that present prior to the postulated loss-of-coolant accident (LOCA). As NMP1 was not licensed to NRC Regulatory Guide 1.1, it is reasonable to conclude that credit for containment pressure prior to a postulated LOCA is an option available for pump NPSH evaluations. In addition, the industry's suggested consideration for 50% clogging of suction strainers is not applicable to the NMP1 license basis.

NMP1's original design and license basis consists of automatic initiation of containment spray in both the drywell and torus spray mode. Our containment analysis shows that the peak bulk torus water temperature in this mode of operation is approximately 158.9 degrees Fahrenheit. With a clean suction grate, NPSH required equals NPSH available at a torus water temperature of approximately 160 degrees Fahrenheit without containment pressure. Therefore, NPSH requirements are satisfied for the license basis condition.

In the Emergency Operating Procedure (EOP) case where containment spray is manually inhibited, the peak bulk torus water temperature is calculated as 163 degrees Fahrenheit. As described in our Technical Specification Amendment No. 133, dated October 14, 1992, "NPSH is calculated assuming no increase in containment pressure from that present prior to the postulated loss-of-coolant accident (LOCA)." In accordance with plant procedures, the containment (drywell and torus) is maintained at a positive pressure of approximately 1 psig using nitrogen. Our Core Spray System NPSH calculation shows that for an Appendix K flow of 4825 gpm, with a downcomer submergence of 3.5 feet, a clean suction grate and a pre-existing torus pressure of 1 psig, NPSH available is greater than NPSH required for a bulk torus water temperature of 169 degrees Fahrenheit. This value bounds the maximum expected EOP bulk torus water temperature of 163 degrees Fahrenheit.



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For an EOP bulk torus water temperature of 163 degrees Fahrenheit, adequate NPSH requirements are assured for a containment pressure down to 0.25 psig. Therefore, given a small amount of containment pressure, the core spray pumps are capable of performing their intended safety function.

The use of containment pressure for NPSH evaluations was approved by the NRC in Region I Combined Inspection Report Nos. 50-220/90-04 and 50-410/90-04 dated June 20, 1990. The Staff's Safety Evaluation states, "The initial conditions given in Regulatory Guide 1.1 are conservative. For design basis accident conditions the containment pressure will be greater than 0 psig and suppression pool temperature will be less than 140 degrees Fahrenheit during a LOCA. The operators will start suppression pool cooling sufficiently early to keep the temperature below 140 degrees Fahrenheit and the containment will be pressurized during a LOCA."

Also, in Amendment No. 133, the NRC again approved the use of containment pressure for NPSH evaluations. The NRC noted they had questioned NMPC about the effects of delaying initiation of suppression pool cooling from 15 minutes to 30 minutes. We stated that an increase in bulk torus water temperature of 3.5 degrees Fahrenheit could be expected. The Amendment states, "In the EOP mode of operation, the maximum pool temperature is expected to increase from 163 degrees Fahrenheit to 166.5 degrees Fahrenheit. This slight increase in pool temperature will not affect the core spray NPSH requirements due to the positive pressure of about 4 psig in the containment expected at the time of maximum pool temperature."

In summary, NMPC believes that the use of containment pressure is within its licensing basis. This is supported by the fact that the conditions when containment pressure are needed to assure adequate NPSH have been previously approved by the NRC.



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