

Richard B. Abbott
Vice President
Nuclear Engineering

Phone: 315.349.1812
Fax: 315.349.4417

July 12, 1999
NMP1L 1451

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: *Generic Letter 94-03, "Intergranular Stress Corrosion Cracking of Core Shrouds in Boiling Water Reactors," Final Root Cause Evaluation of a Cap Screw Failure for a Stabilizer Assembly (Tie Rod) for Nine Mile Point Unit 1*

Gentlemen:

By letter dated May 21, 1999, Niagara Mohawk Power Corporation (NMPC) requested Staff approval of a proposed modification to each of the four tie rods pursuant to 10CFR50.55a(a)(3)(i). As stated in that letter, the modification replaces the design function of the failed cap screw and other cap screws that have the potential for future failure in the upper spring. NMPC also stated that the root cause evaluation was preliminary and that it would provide a final root cause evaluation within 30 days following restart of the unit. The purpose of this letter is to provide the final root cause evaluation.

The cause, as stated in our letter dated May 21, 1999, was confirmed to be intergranular stress corrosion cracking in the alloy X-750 cap screw material due to large sustained stresses. Specifically, these stresses were from differential thermal expansion of dissimilar materials fastened by the cap screw.

As also stated in that letter, a potential contributing cause was the sustained stresses that were attributed to the torquing of the cap screw associated with the original assembly of the tie rods. NMPC has determined that the torquing process was properly controlled during initial assembly of the tie rods to provide reasonable assurance that the cap screws were not over torqued. Therefore, this potential contributing cause has been eliminated.

Furthermore, as stated in the same letter, a second potential contributing cause was the stresses associated with friction between the reactor pressure vessel wall and the upper spring contact points. Based on a re-examination of the wear marks on the reactor pressure vessel wall and destructive testing of two cap screws from the 166 degree tie rod upper spring upper contact, NMPC has eliminated friction as a potential contributing cause.

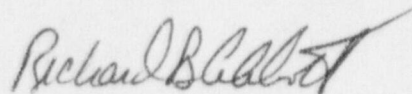
9907190139 990712
PDR ADOCK 05000220
P PDR

1/0
A001

Page 2

The modification is unaffected by these conclusions in that it was designed to address the combined effect of these three sources of stress on the subject caps crews. Accordingly, NMPC continues to conclude that the proposed modification provides an acceptable level of quality and safety.

Very truly yours,



Richard B. Abbott
Vice President - Nuclear Engineering

RBA/KWK/kap

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. S. S. Bajwa, Section Chief PD-I, Section 1, NRR
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. D. S. Hood, Senior Project Manager, NRR
Records Management