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

July 23, 1999

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

SUBJECT: EVALUATION OF RECIRCULATION LINE WELD 32-WD-050 INDICATION, NINE MILE POINT NUCLEAR STATION, UNIT NO. 1 (TAC NO. MA5696)

Dear Mr. Mueller:

During the 1997 refueling outage (RFO14) at Nine Mile Point Nuclear Station, Unit 1 (NMP1), Niagara Mohawk Power Corporation (NMPC) found an indication requiring evaluation as a result of the inservice testing of weld 32-WD-050 of the reactor recirculation system piping. Weld 32-WD-050 is a circumferential weld in the 28-inch recirculation suction piping that joins the downstream side of block valve 32-376 to the pipe spool. The flaw was reported to be 1.25 inches long, 0.25 inch deep, and located at the same root area where a weld repair had been performed during the original weld fabrication. However, the information was insufficient to reliably determine the root cause of the indication because the indication could be a remnant from an original weld fabrication defect or a flaw associated with intergranular stress corrosion cracking (IGSCC). In a letter dated April 7, 1997, NMPC submitted a flaw evaluation of weld 31-WD-050, assuming the flaw to be an IGSCC crack. On the basis of its review of NMPC's flaw evaluation and its own independent crack growth calculation, the NRC staff concluded in a letter and safety evaluation (SE) dated April 30, 1997, that NMP1 could be safely operated for the next 2-year fuel cycle without repairing weld 32-WD-050. As noted in that SE, at the NRC staff's request, NMPC had reclassified the weld from IGSCC Category "A" to Category "F" to ensure the weld would be inspected during the subsequent refueling outages. In accordance with Generic Letter (GL) 88-01, "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping," IGSCC Category "F" welds are welds containing cracks that have been approved by analysis for limited service without repair and will be inspected each refueling outage. Category "A" welds are welds with no known cracks and made of IGSCC resistant materials. The NRC staff stated in its SE that the weld may be returned to its original IGSCC Category "A" status only after the inspection results have adequately demonstrated that the flaw is a fabrication defect, rather than an IGSCC crack.

In a letter dated June 1, 1999, NMPC reported the reinspection results of weld 32-WD-050 for the 1999 refueling outage (RFO15). NMPC reported that the length of the flaw had not changed, and the flaw depth was measured to be 0.28 inch. NMPC attributed the small increase (0.03 inch) in depth to the uncertainties associated with the ultrasonic measurement technique. NMPC stated in its letter that weld 32-WD-050 will be reclassified back to a GL 88-01 IGSCC Category "A" weld and inspections will be conducted in the next three inspection periods in accordance with American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Section XI, IWB-2420(b), to confirm the absence of IGSCC.

NMPC's reinspection results have shown that flaw growth in weld 32-WD-050 was not significant during the last fuel cycle. The NRC staff finds that a repair to weld 32-WD-050 is not required for continued safe operation of NMP1 for another 2-year fuel cycle (i.e., until RFO-16) because, as demonstrated by NMPC's previous flaw evaluation, the structural integrity of the weld will be maintained. The NRC staff agrees that NMPC's reinspection program scheduled for the next three inspection periods to confirm the absence of IGSCC in weld 32-WD-050 is consistent with the ASME Code requirements and, therefore, is acceptable. However, the NRC staff finds NMPC's decision to reclassify the weld from a Category "F" weld to a Category "A" weld to be premature at this time because the reinspection program to confirm that the indication is a fabrication defect is on-going. Weld 32-WD-050 should be returned to Category "A" only after the completion of the reinspection program, and provided the inspection results have satisfactorily demonstrated that the indication is not an IGSCC crack.

We request that you inform us of your decision to retain the Category "F" classification until the above conditions are satisfied. Subject to our receipt of such a response, this completes our efforts under TAC No. MA5696.

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

Sincerely,

Original signed by:

Darl S. Hood, Sr. Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-220

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