NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N.Y. 13202

Regulatory File Cy.

March 24, 1972

Mr. Donald J. Skovholt
Assistant Director for Reactor Operations
Division of Reactor Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Skovholt:

Re: Provisional Operating License DPR-17
Docket No. 50-220

In your letter dated March 14, 1972, we were requested to propose a supplemental inspection program for sensitized stainless steel on the Nine Mile Point Nuclear Station, Unit #1 reactor vessel.

In a report filed May 11, 1970, "Program For Restoration To Service Based On Reports of Primary System Investigations - Nine Mile Point Nuclear Station", we agreed to re-examine all furnace sensitized safe ends and welds within the year and to re-evaluate the inspection program based on the findings. In our report of June 10, 1971, the results of this examination described all safe ends on the vessel proper to be in satisfactory condition, Indications were found on some of the nineteen furnace sensitized nozzles examined on the vessel head. Therefore, to provide a fair sampling and in the interest of minimizing exposure to personnel, our re-evaluation of the surveillance program consisted of a complete examination of all nozzles on the vessel head (UT & PT) each time the head was removed. Should there be indications of general intergranular attack, it would be regarded as sufficient reason to re-examine the safe ends on the vessel proper. Nozzles on the head were re-examined during October, 1971, with gratifying results.

However, as the program for continuing surveillance of the sensitized material over the long term is judged to be insufficient, we now propose the following based on the guide lines of the enclosure in the March 14, 1972 letter.

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Furnace Sensitized Safe Ends

1. Examine 100 percent of the furnace sensitized safe ends and safe end welds by PT and UT at or within the first refueling outage.

   The first refueling outage will take place in the spring of 1973. All safe ends on the vessel and head were examined by UT and PT in December, 1970 and April, 1971. Therefore, the first 100 percent examination will be accomplished within the first refueling.

2. Examine 100 percent at or within the second refueling outage.

   The second refueling outage will take place one year after the first, or during the spring of 1974.

   Examination of all safe ends in one outage, in addition to other in-service inspection requirements, would require excess numbers of personnel in order to hold individual exposures at a conservative level. Examination of generous samples at regular time intervals should provide better surveillance than those performed in wholesale with irregular spacing. Therefore, we would examine by UT and PT -
   a) one-third on vessel, one third on head during April, 1972
   b) one-third on vessel, one third on head during Spring, 1973
   c) one-third on vessel, one third on head during Spring, 1974
   This then would result in 100% being examined within the second refueling outage.

3. There are no furnace sensitized safe ends welded to pipe containing non-flowing reactor coolant. There were two core-spray safe ends in this category but they were replaced with non furnace sensitized safe ends in April, 1970. Also provisions were made in the design to obtain an interchange of liquid within the safe end, therefore preventing stagnation. See Niagara Mohawk report dated May 1, 1970 "Reactor Primary System Investigation at Nine Mile Point Nuclear Station" Section 7 and Appendix "D".

4. One hundred percent will be re-inspected between 1973 and 1980.

5. One hundred percent will be re-inspected each decade of operation, thereafter in compliance with IS-242 of Section XI of the ASME Pressure Vessel Code.

Welds Of Field-Replaced Safe Ends

1. All three safe ends, both core sprays and one emergency condenser

were examined within the first refueling period and report filed June 10, 1971. However, one core-spray safe end will be examined in 1974 and the emergency condenser in the following decade.

All safe end inspections by PT and UT will consist of one hundred percent of exterior surface. One hundred percent of exterior circumference of welds and base metal for one wall thickness beyond edge of weld.

Severely Weld-Sensitized Heat-Affected Zones in Wrought 304 and 316 Piping

Without actually testing, it is not possible to ascertain whether the heat affected zone is sensitized and if so, to what degree. During the April, 1972 outage, modified ASTM test A262 will be applied to representative heat affected zones in welds of given procedure in piping from various suppliers. In conjunction, UT and PT examinations will be made. The degree of sensitization found in the sample will determine the sensitization condition of the remainder of the group.

Of the 145 joints within the dry well 4" and over, those judged to be severely sensitized will be examined by UT and PT as follows:

April, 1972 - 10 joints
Spring, 1973 - 10 joints
Spring, 1974 - 10 joints

In this way, 10% or 15 are examined within each the first and second refueling outage.

7 would be examined 1973 - 1980
38 would be examined over each subsequent operating decade

Furnace Sensitized Components Within Reactor Vessel

Within the first refueling outage, as much of the core support ring to support cone weld will be examined visually as time permits. A high resolution TV camera will be used in the attempt. Any remaining weld not examined during the first refueling will be examined within the second refueling.

Four dryer support brackets and one guide rod support bracket will be examined in the same manner at or before the second refueling outage.

Anytime the vessel is opened, if the above commitments have not been met, an attempt will be made to comply with the program.

This program will be repeated in approximate three year intervals.

Should any of the investigations described in the entire supplemental surveillance program disclose material requiring repair, the appropriate branch of the Atomic Energy Commission will be promptly notified.

Summary of Work To Be Done April, 1972

3 - Recirculation Nozzles
6 - Safety valve nozzles on head
Up to 10 welds with heat-affected zones in wrought type 304 and 316 piping which may have become severely weld sensitized

We would be pleased to discuss any part of this program at any time should questions so require.

Very truly yours,

F. J. Schneider

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Vice President - Operations

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