UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
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April 21, 1971

J. P. O'Reilly, Chief, Reactor Testing & Operations Br.
Division of Compliance, Headquarters

INQUIRY MEMORANDUM NO. 220/71-B
NIAGARA MOHAWK POWER CORPORATION (NINE MILE POINT)
IN-SERVICE INSPECTION

Mr. Al Burt, Station Superintendent, contacted the assigned inspector on April 20, 1971 and followup telecons were held with Mr. T. Perkins to obtain additional information on the same date. Significant information relating to these calls is as follows:

1. The reactor was shut down on April 3, 1971 for a six-week outage to make modifications to the moisture separator drain piping and to perform an in-service inspection of furnace sensitized reactor vessel nozzle safe-ends in accordance with prior commitments to the AEC.*

2. Inspection techniques consisted of LP and UT examinations by General Electric NDT personnel. Selected reactor vessel nozzle safe-ends were inspected in December, 1970 and no defects were noted. The remainder of the nozzles were inspected during this outage and no defects were noted by UT examination, but several questionable areas (described below) were noted by LP examination.

3. The questionable areas identified in the April, 1971 LP examination were also examined in April - May, 1970 and were left in an "all white" condition at that time.

4. The reactor vessel nozzles inspected during this outage included 19 penetrations in the reactor vessel head. Of these 19, eight had an "all white" indication. Eleven of the safe-ends had some shallow (<5 mils estimated) script type defects. One lineal defect $\approx$ 1-1/2" long was observed in the nozzle to safe-end weld with an estimated depth of $\approx$ 15 mils. No repairs have been attempted.

5. Other nozzles inspected during this outage included; (a) five recirculation pump discharge nozzles, (b) four recirculation pump suction nozzles, (c) one emergency condenser steam line nozzle, and (d) one control rod drive return nozzle. Of these 11 nozzles, five had some small linear indications estimated to be <5 mils in depth. Some shallow surface defects were also noted on one recirculation pipe.

*Program for restoration to service dated May 8, 1970.

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6. Two main steam line welds outside of the drywell and two main steam line welds inside of the drywell were also examined by UT. GE is currently evaluating the results.

7. The turbine casing has been removed to replace 66 buckets on the low pressure turbine last-stage wheels. These buckets were modified (wear strips removed) before initial plant startup when defects were noted in the welds which connected the wear strips to the buckets. Sixty-six new buckets with wear strips have been installed. LP examination of all last-stage bucket wear strip welds disclosed one additional defect and that bucket is being replaced.

8. The stainless steel pins which hold the last-stage buckets in place were UT examined and 100 (of 2700) were found defective. Mr. Perkins stated that GE had examined the failed pins and considered that the pins failed because of stress corrosion. It was suspected that sulfur (used in the coolant during the boring of the holes which accept the pins) was the containment? containment. All 2700 pins are being replaced with a different type of pin. NMP has three low pressure-dual flow turbines with six last stage wheels containing the 2700 pins.

CO:I has made arrangements with NMPC to have GE NDT personnel at the site on April 26, 1971 to repeat the LP examinations with CO present. Dr. Sylvester, NMPC's consultant, will also be at the site on that date. The details of the turbine blading pin failures will be obtained at that time. We will keep you informed of any additional developments.

R. J. McDermott for
R. T. Carlson
Senior Reactor Inspector

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