

NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

May 3, 1974

50-220

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:

In accordance with Technical Specifications for Nine Mile Point Unit 1, the enclosed Abnormal Occurrence Report is submitted. This report is in accordance with the format set forth in Regulatory Guideline 1.16.

Very truly yours,

R.R. Schneider
Vice President - Electric Operations

RRS/bar

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ABNORMAL OCCURRENCE REPORT

1. Report No. 74-7
- 2a. Date April 30, 1974
- 2b. Occurrence Date April 25, 1974
3. Facility Nine Mile Point Nuclear Station Unit 1
4. Identification of Occurrence

Control Rod Blade Tube Inversion

5. Conditions Prior to Occurrence

Unit 1 was shutdown for annual refueling

6. Description of Occurrence

During the previous operating cycle on September 25, 1973 you informed us of a possible problem involving inverted tubes in control rod blades. In our response to your letter and further communication we committed to:

1. A shutdown margin test on each control rod (completed in November 1973 with negative results).
2. An eddy current testing program on each control rod during the next refueling outage.
3. A change out of any affected control rod.

On April 24-25, 1974 the eddy current testing evaluation of individual control rod blades in the Nine Mile Point Unit 1 reactor core was completed. The eddy current test used was that as described in the General Electric submittal to your office on October 8, 1973. The results of the testing showed two control rod blades with possible inverted tubes. Immediate steps were taken to insure that the cells effected would be in a less reactive condition than that as experience during the previous cycle. The control rod would not be withdrawn and only two bundles were present in the cell affected. The control blades will be changed in these two cells later during the core refueling.

7. Designation of Apparent Cause of the Occurrence

Manufacturing Deficiency

8. Analysis of Occurrence

The inverted sheaths were found at core location 22-15 and 30-39 two widely dispensed locations. In addition shutdown margin demonstrations

in November 1973 showed no inadequacy in more than necessary shutdown margin. Based on this it is concluded that no hazard was presented to the general public.

9. Corrective Action

The two control blades will be changed. In addition the Site Quality Control Organization will prevent further manufacturing deficiency from being used. This organization was not in existence when the original control blades were obtained.

10. Failure Data

First Failure of this nature.

ABNORMAL OCCURRENCE AOR 50-~~220~~/74-7

TUBE INVERSION IN TWO CONTROL BLADES

PURSUANT TO TECHNICAL SPECIFICATIONS 1.13d WE ARE REPORTING AS AN ABNORMAL OCCURRENCE (AOR50-220/74-7) THE INVERSION OF TUBES IN TWO CONTROL ROD BLADES AT NINE MILE POINT NUCLEAR STATION UNIT 1.

DURING THE SPRING 1974 REFUELING OUTAGE AN EDDY CURRENT TEST WAS MADE OF EACH CONTROL BLADE IN THE REACTOR CORE. THE RESULTS WERE ANALYZED ON APRIL 24 AND INDICATED TUBE INVERSION IN CONTROL ROD BLADES, 30-39 AND 22-19.

THE EDDY CURRENT TESTING VERIFIES THE NON INVERSION OF INDIVIDUAL TUBES IN EACH WING OF THE CONTROL ROD BLADE. THEREFORE IT IS A CONSERVATIVE TEST IN THAT THE RESULTS INDICATE NON-INVERSION ONLY AND NOT INVERSION.

THE IMMEDIATE CORRECTIVE ACTION PERFORMED, WAS NOT LOADING THE CONTROL CELL TO ITS FINAL REACTIVE CONDITIONS DURING FUEL MOVEMENTS. THIS WILL INSURE THAT THE CONTROL BLADE "HOLDS DOWN" LESS REACTIVITY NOW THAN DURING ANY POINT IN THE PREVIOUS OPERATING CYCLE. DURING THE OPERATING CYCLE SHUTDOWN MARGIN TESTING WAS PERFORMED ON EACH CONTROL ROD IN THE REACTOR. THIS VERIFIED THAT MORE THAN ADEQUATE SHUTDOWN MARGIN EXISTED ON EVERY CONTROL BLADE IN THE CORE.

THE FINAL CORRECTIVE ACTION WILL BE TO REPLACE THE TWO CONTROL BLADES WITH BLADES VERIFIED TO BE NON-INVERTED.

BASED UPON THE FACT THAT MORE THAN ADEQUATE SHUTDOWN MARGIN EXISTED DURING THE OPERATING CYCLE AS DEMONSTRATED, NO HAZARD WAS PRESENTED TO THE GENERAL PUBLIC OR THE STATION DURING THE PREVIOUS OPERATING CYCLES.

THIS IS THE FIRST FAILURE OF THIS NATURE.

THOMAS J. PERKINS
STATION SUPERINTENDENT
NINE MILE POINT NUCLEAR STATION

Handwritten signature and date 5-2-74