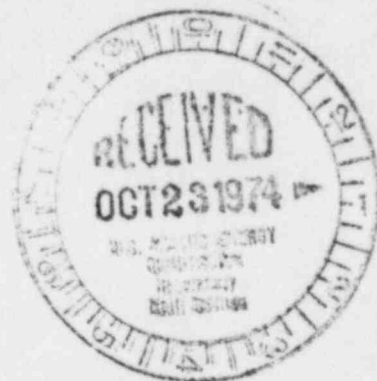




Commwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

October 21, 1974



Mr. Edson G. Case
Acting Director
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Subject: Dresden Station Unit 2 and Quad-Cities
Station Unit 2 Reactor Water Recirculation
4-Inch Diameter Piping Crack Investigation
Program, AEC Dkts 50-237 and 50-265

Dear Mr. Case:

Since the discovery of a through wall crack in the 4-inch diameter reactor water recirculation B pump discharge valve bypass piping at Dresden Station Unit 2 on September 13, 1974, an investigation to determine the cause of the cracks has been in progress. An interim report of the results to-date of this investigation was discussed with members of your staff in a meeting on October 3, 1974. In brief summary, the results to-date were the following.

Interim Status

Specimens of the cracked piping from Dresden Unit 2 "B-Loop" and Quad-Cities Unit 2 were examined metallurgically at Argonne National Laboratory and at General Electric Company's Vallecitos Laboratory. These examinations indicated that these two cracks were caused by stress assisted corrosion originating on the pipe inside surface.

ASME Code stress calculations, finite element stress calculations, and a dynamic analyses have indicated there are no unusual stresses or vibrations. To-date, vibration monitoring instrumented at Quad-Cities Unit 2 has indicated no excessive vibration.

It has been determined from quality control records that the 4-inch diameter bypass piping at Dresden Unit 2, Quad-Cities Unit 2, and Millstone Unit 1 was obtained from a single heat of steel. The Dresden Unit 3 and Quad-Cities Unit 1 4-inch diameter

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bypass piping were obtained from this same heat. Chemical tests to-date have indicated no property that would affect performance of the steel.

A review of the fabrication records indicates the piping was installed in accordance with design requirements. In addition, when the piping repairs were made at Dresden Unit 2 and Quad-Cities Unit 2, no "Cold Spring" or excessive pipe movement was observed.

The cracks were associated with piping in which the valve is closed and there is no flow during routine power operations.

Interim Corrective Measures

On the basis of these interim results, certain conclusions can be drawn relative to proper interim corrective measures. To-date, the interim corrective measures are: replacement of the sections of piping containing cracks, consideration of opening the valve in the bypass piping to reduce thermal stress and any postulated corrosion effects of non-flowing water.

Final Report

Final reports from the various consultants to Commonwealth Edison Company are expected in November, 1974. The reports are expected to cover the following areas.

Metallurgical Examinations:

- Miscroscopy
- Identification of corrosion products in the cracks

- Stress - Corrosion tests
- Chemical analysis of steel

Stress Analyses:

- ASME Code
- Finite element
- Dynamic

Vibration Monitoring Results

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The schedule for reviewing these reports and developing the appropriate final conclusions and corrective actions is January, 1975. It is planned to submit this information to you at that time; however, as significant new information becomes available, we will continue to keep you informed of the status.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. S. Abel".

J. S. Abel
Nuclear Licensing Administrator
Boiling Water Reactors