

PART 21 IDENTIFICATION NO. 81-406-000 COMPANY NAME TVA

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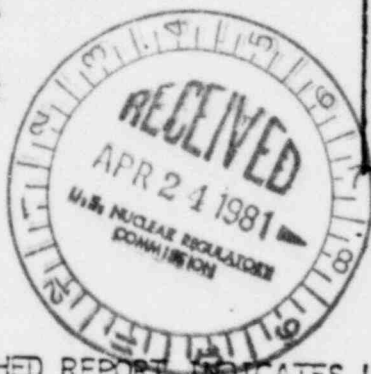
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ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

IE

NRR

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OTHER

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5 8104280064

POOR ORIGINAL

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

81-406-000

400 Chestnut Street Tower II

April 10, 1981

SQRD-50-328/81-23

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

SEQUOYAH NUCLEAR PLANT UNIT 2 - POSSIBLE ERROR IN SIS PREOPERATIONAL TEST -
SQRD-50-328/81-23 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on March 11, 1981, in accordance with 10 CFR 50.55(e) as NCR SQN NEB 8115. Enclosed is our final report. We consider 10 CFR 21 applicable to this deficiency.

If you have any questions, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ENCLOSURE
SEQUOYAH NUCLEAR PLANT UNIT 2
POSSIBLE ERROR IN SIS PREOPERATIONAL TEST
SQRD-50-328/81-23
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The Westinghouse-supplied scoping documents for the Safety Injection System preoperational tests do not specifically require that the position of all check valves important to the test results be checked. As a result, apparently acceptable flow rates could have been measured from the combination of flow to the reactor coolant system and through partially opened check valves. During plant operation with the check valves in the proper positions, the flow rate to the reactor coolant system during a LOCA could have been less than the value used in the plant safety analysis due to higher system resistance.

Safety Implications

The flow rate from the Safety Injection System during a LOCA could have been less than that claimed in the plant safety analysis, which could have adversely affected the safety of the plant.

Corrective Action

TVA has reviewed the following safety injection system (SIS) preoperational test instructions:

- W-6.1C SIS - Centrifugal Charging Pump and Related SIS Performance
- W-6.1D SIS - Safety Injection Pump and Related SIS Performance
- W-6.1E SIS - Residual Heat Removal (RHR) Pump and Related SIS Performance

The possible failure of a check valve to close does not affect the acceptability of the results of W-6.1C and W-6.1D since injection flow is measured downstream of any flow path to the idle pump's discharge and miniflow check valves.

Test W-6.1E requires that injection flow be measured at the RHR pump discharge and at flow elements in the branch lines which feed the four cold leg injection lines. The branch line flow elements are downstream of any flow path to the idle pump's discharge check valve. A deficiency was written during the W-6.1E test because the accuracy of one of the branch line flow elements is suspect.

Had this flow instrumentation been accurate, the actual flow rate to the reactor vessel could have been verified. TVA will resolve this deficiency by reviewing available data to verify that this branch line has an adequate flow rate. If this data cannot verify an adequate flow rate, the test will be rerun to include verification that no leakage exists through any check valve. This test will utilize the idle pump's discharge flow meter which is located upstream of the check valve. Verification of adequate flow rate will be completed before initial criticality. Surveillance instructions will be written to include check valve position verification for future SIS tests.