TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

March 25, 1981

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:

WATTS BAR NUCLEAR PLANT UNIT 1 - DAMAGE TO THE UHI PIPING HANGER - NCR W-6-P - FINAL REPORT

The subject condition was initially reported to NRC-OIE Inspector M. Thomas on August 15, 1980, in accordance with 10 CFR 50.55(e). Interim reports were submitted on September 12, October 24, and December 12, 1980, and February 13, 1981. Enclosed is our final report.

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

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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNIT 1
DAMAGE TO THE UHI PIPING HANGERS
NCR W-6-P
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

An upper head injection piping hanger which was attached to the underside of the reactor cavity shield plug was damaged when the shield plug was lifted for a gasket fit up without the hangers being disconnected. Also, the ASME Code Class 1 UHI piping and/or welds attached to the damaged hanger, as well as the related Grayloc quick disconnect fittings, may have been damaged.

Additionally, the damaged UHI hangers and subsequently several other UHI hangers were dissassembled without an approved workplan.

Safety Implications

It is necessary that the upper head injection hangers and piping remain intact to ensure the seismic integrity of the system. The upper head injection system is designed for emergency core cooling following accident conditions. The safety of the plant could have been adversely affected by failure of the UHI system during a seismic event.

Corrective Action

TVA has examined the damaged hanger and has determined that it will need to be replaced. Inspection of all TVA and Dravo welds have revealed that no damage resulted from the lifting incident. EDS Nuclear, Incorporated, has done a piping analysis to determine the loads generated by the lifting incident. These loads have been transmitted to Westinghouse.

Westinghouse has evaluated the EDS analysis of the loads that were generated on the UHI reactor vessel nozzle as a result of the lifting incident and has found the associated stress levels acceptable. TVA has reexamined welds on the reactor vessel nozzle and associated auxiliary head adapter welds in accordance with ASME Section XI requirements. No deficiencies associated with these vendor shop welds have been discovered. The Grayloc quick disconnect fittings will be checked for leakage by hydrotest of the line during cold hydro of the system. TVA does not anticipate any leakage of the line; however, a revised report will be submitted if additional deficiencies pertaining to the lifting incident are discovered.

Responsible personnel involved in the lifting incident have been informed of the requirments for and use of approved work plans (WB-QCP-130). Instructions to foremen and craftsmen on damage reporting have also been expanded to include reporting any incident that could result in damage not readily visible.