TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 1, 1981

WBRD-50-390/81-57

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 - CENTRIFUGAL CHARGING PUMP 1A-A IMPELLER - WBRD-50-390/81-57 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on June 29, 1981 in accordance with 10 CFR 50.55(e) as NCR W-40-P. Our first interim report was submitted on July 30, 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
CENTRIFUGAL CHARGING PUMP 1A-A IMPELLER
WBRD-50-390/81-57
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

During the performance of flushing activities for the emergency core cooling system, a temporary strainer installed at the pump suction for the centrifugal charging pump became plugged. The plugging resulted in insufficient net positive suction head for the pump. This condition went undetected because differential pressure across the strainer was not monitored and resulted in the impeller overheating and seizing, thus damaging the internal element of the 1A-A pump.

Safety Implications

Had the failure of the centrifugal charging pump internal element gone uncorrected, emergency core cooling system flow rate could have been below that specified in the FSAR. This lack of the flow rate could allow the reactor core to become overheated during an accident, thus endangering the safety of the plant.

Corrective Action

The internal element was replaced, and a differential pressure indicator was installed to facilitate monitoring pressure drop across the pump suction strainer. Operations employees have been made aware that suction differential pressure across the strainer should be monitored during flushing activities. In addition, it has been reaffirmed to all shift engineers that it is their responsibility to hold up or stop any test or operation if they do not believe the equipment can be operated safely.