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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

January 15, 1981

WBRD-50-390/81-04
WBRD-50-391/81-05

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 UNITS 1 AND 2 - ITT ACTUATOR FOR POSI-SEAL -
WBRD-50-390/81-04 AND WBRD-50-391/81-05 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. W. Wright on December 17, 1980, in accordance with 10 CFR 50.55(e) as
NCR WBN EEB 8008. Enclosed is our final report.

If you have any questions concerning this matter, 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, Jr., Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
ITT ACTUATOR FOR POSI-SEAL
WBRD-50-390/81-04, WBRD-50-391/81-05
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

A particular spring used in ITT actuators was manufactured from incorrect material. The spring does not possess the designed strength and will, upon actuation, take a permanent set, resulting in a decreased force output.

Safety Implications

As a result of investigation performed by TVA per requirement of NRC OIE Bulletin 80-09, TVA uncovered the use of NH 90 series hydromotors by Posi-Seal. As discussed below, Posi-Seal has informed TVA that, even with the spring taking a permanent set, the resultant output force is more than adequate and the actuator/valve will perform satisfactory. Thus had the condition remained uncorrected, it could not have affected adversely the safety of operation of the plant.

Corrective Action

Information supplied TVA by Posi-Seal is as follows:

Actuator gross stem force = 3000 lbs.
Valve required stem force = 694 lbs.
Decreased force output per NRC Bulletin No. 80-90 = 160 lbs.
Additional friction per NRC Bulletin No. 80-90 = 100 lbs.
Residual hydraulic pressure per NRC Bulletin No. 80-90 = 40 lbs.
Corrected stem force = $3000 - 160 - 100 - 40 = 2700$ lbs.

Since the corrected actuator output is much larger than the valve required force and the satisfactory performance of the actuator to operate the valve at Posi-Seal, the determination is that the actuators will perform satisfactorily with the present spring.