

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

1 DEC 9 1981  
December 7, 1981

WBRD-50-390/81-96  
WBRD-50-391/81-90

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 - DAMAGE TO CCS BELLOWS DURING  
INSTALLATION - WBRD-50-390/81-96, WBRD-50-391/81-90 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
R. V. Crlenjak on November 6, 1981 in accordance with 10 CFR 50.55(e)  
as NCR 3270R. Enclosed is our final report.

If you have any questions, please get in touch with R. H. Shell at  
FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*F. M. Mills*  
F. 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 UNITS 1 AND 2  
DAMAGE TO CCS BELLOWS DURING INSTALLATION  
WBRL-50-390/81-96, WBRD-50-391/81-90  
10 CFR 50.55(e)  
FINAL REPORT

### Description of Deficiency

During installation of 18" diameter expansion joints (bellows) for the four Component Cooling System pumps, three were significantly damaged. These bellows are ASME Section II, Class 2 (TVA Class B). The three bellows which were damaged are suction bellows 1B-B, 2A-A, and 1A-A. The damage to these bellows was of such a nature and extent that repairs would require extensive repair research and developmental testing. The damage occurred on the outside surface of the bellows while flange bolts were being tightened because of tight clearance between the end convolution and the flange bolts. The surface of the damaged bellows were gouged or depressed. Two other bellows suffered minor damage, such as scuff marks, burrs, and scratches.

### Safety Implications

Three of the eight CCS pump bellows were damaged severely enough to disable or degrade the capability of the CCS such that adequate cooling water might not be available to essential safety-related components. This in turn could cause the degradation or loss of those essential components serviced by the CCS and thereby adversely affect plant safety.

### Corrective Action

The three bellows which suffered significant damage will be replaced with new bellows. The other two bellows will have the minor scuff marks, burrs, and scratches buffed clean using emery paper. All bellows will be returned to a clean condition. This will be completed by fuel loading of unit 1.

To prevent recurrence, crafts have been instructed in the care that must be exercised in the installation of bellows.