

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

April 6, 1983

WBNRC REGION II  
ATLANTA, GEORGIA  
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WBRD-50-390/82-34  
WBRD-50-391/82-31

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

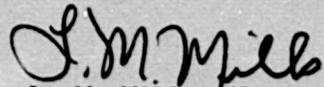
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - UNDERDESIGN OF ERCW INTAKE PUMPING  
STATION DOORS AND HATCHES - WBRD-50-390/82-34, WBRD-50-391/82-31 - FINAL  
REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
R. V. Crlenjak on April 7, 1982 in accordance with 10 CFR 50.55(e) as NCR  
WBN CDB 8202. Interim reports were submitted on May 11, and October 19,  
1982. Enclosed is our final report. Please note that the description of  
deficiency has been revised to more accurately reflect the subject  
condition.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
L. M. Mills, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30339

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## ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2  
UNDERDESIGN OF ERCW INTAKE PUMPING STATION DOORS AND HATCHES  
NCR WBN CDB 8202  
WBRD-50-390/82-34, WBRD-50-391/82-31  
10 CFR 50.55(e)  
FINAL REPORT

### Description of Deficiency

The ERCW intake pumping station concrete structure was designed for 3 lb/in<sup>2</sup> pressure differential; however, the doors and hatches were not.

The design of the subject doors and hatches was not specifically addressed in any design criteria; however, the pressure design requirements were inferred through Watts Bar Design Criteria WB-DC-20-19 "Intake Pumping Station Concrete Structure, Intake Channel, and Retaining Walls." WB-DC-20-19 references WB-DC-20-1, "Concrete Structures" which specifies that all Class I structures shall consider tornado depressurization criteria (3 psi) in their design. This requirement was inadvertently overlooked during the original design of the subject doors and hatches.

### Safety Implications

If this deficiency had remained uncorrected, doors opening onto the pump deck could have blown off during tornado depressurization. These doors could act as missiles and jeopardize essential safety-related equipment on the deck. This condition could have jeopardized the safe operation of the plant.

### Corrective Actions

The analysis of the doors and hatches has been completed. This analysis showed that the hatch covers are adequately secured to frames and will not be overstressed nor become missiles when subjected to 3 lb/in<sup>2</sup>.

Doors will open at approximately 0.13 lb/in<sup>2</sup> psi due to latch load on the center screw on the latch side of the door frame. To assure against frame failure on the hinge side of the door, drawings were revised to add three additional 3/8-inch diameter pan head bolts on the hinge side of the door frame.

All design work has been completed and drawings requiring revisions have been issued. This work was completed under engineering change notice 3152. All construction rework has also been completed.