

MIDDLE SOUTH  
UTILITIES SYSTEM

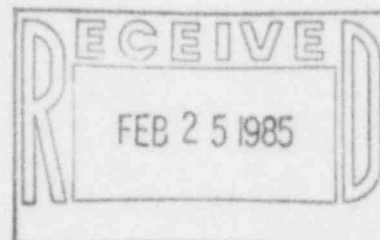
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February 21, 1985

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A4.05

Mr. Robert D. Martin  
Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011



Dear Mr. Martin:

Subject: Waterford 3 SES  
Docket No. 50-382  
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 93  
"Charging and Letdown Containment Isolation Valve Deficiency"  
Final Report

Reference: LP&L letter W3K84-2965 dated October 31, 1984

The referenced letter provided an interim report on SCD-93 with the Justification for Interim Operation. It stated that the final report would be submitted upon the completion of response time testing.

In accordance with the requirements of 10CFR50.55(e)(3), enclosed are two copies of the Final Report of SCD-93.

Very truly yours,

K.W. Cook  
Nuclear Support & Licensing Manager

KWC:GEW:sms

cc: NRC, Director, Office of I&E  
G.W. Knighton, NRC-NRR  
D.M. Crutchfield, NRC-NRR  
NRC Resident Inspectors Office  
INPO Records Center (D.L. Gillispie)  
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FINAL REPORT OF  
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 93  
"LETDOWN CONTAINMENT ISO VALVE ICH-F-2501 A/B"

#### INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes the failure of valve ICH-F-2501 A/B (CVC-103) to close following Hot Functional Testing (HFT). This problem is considered reportable under the requirements of 10CFR50.55(e).

To the best of our knowledge, this deficiency has not been reported to the USNRC pursuant to 10CFR21.

#### DESCRIPTION OF PROBLEM

Following the cooldown after HFT, it was discovered that the valve ICH-F-2501 A/B (CVC-103), (supplied by WKM), was stuck in the open position. This valve had been exposed to 550°F service temperature for several days during HFT of the charging and letdown system.

It appears that the malfunction occurred due to upstream float of the seat which reduced the clearance between the seat and the gate, thereby causing the gate to stick open.

#### SAFETY IMPLICATIONS

Valves ICH-F-2501 A/B (inside Containment, powered from SB division) and 2CH-F-1518 A/B (outside Containment, SA division) provide containment isolation for the letdown line. Failure of ICH-F-2501 A/B to close would violate the isolation requirements of GDC55. Although there is in fact another safety class 1 valve (ICH-F-1516 A/B) upstream of the affected valve (ICH-F-2501 A/B), which would automatically close on high containment pressure or low pressurizer pressure, it is powered from the SA division. The requirements for independent power sources would therefore, not be met if valve ICH-F-2501 A/B failed to close.

#### CORRECTIVE ACTION

Vendor (WEM) service technician has repaired the valve with new seats which are sized for maximum interference fit in the seat pocket in order to eliminate the previously experienced seat float. The closure of this valve has since been satisfactorily tested in the cold fluid condition.

The closure and operability of the valve ICH-F-2501 A/B has also been tested during post core hot functional test temperature ascension and full temperature conditions. In all instances the valve operated satisfactory and closed in approximately 1.5 seconds. FSAR commitment for closure of valve ICH-F-2501 A/B is 10 seconds.

In accordance with the valve testing procedure, the valve 1CH-F-2501 A/B will also be tested during plant cooldown when plant conditions permit it, to ensure that it operates satisfactorily during decreasing temperature conditions.

Technical Specification 3.6.3 would be enforced in the unlikely event if valve 1CH-F-2501 A/B would fail the completion of the tests.

The containment isolation valves which operate at temperature 250°F or higher have been evaluated for generic implications. There is only one other valve of similar design (2CH-F-1518 A/B) which is also used for letdown line isolation outside containment. This valve closed satisfactorily in 2.6 seconds during testing in cold condition.

The above valves are double disc gate valves specifically designed to ensure minimum possible leakage. Other containment isolation valves are of simpler design and are not applicable for generic failure analyses. Also, all containment isolation valves have been tested in cold condition and closed satisfactorily to meet FSAR commitments.

Problems which occur during routine eighteen month surveillance tests will be handled in accordance with administrative procedures and technical specifications.