

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-458/87-19

License: NPF-47

Docket: 50-458

Licensee: Gulf States Utilities (GSU)  
P. O. Box 220  
St. Francisville, Louisiana 77704

Facility Name: River Bend Station (RBS), Unit 1

Inspection At: St. Francisville, Louisiana

Inspection Conducted: August 3-7, 1987

Inspector:

D. E. Norman

D. E. Norman, Reactor Inspector, Engineering Section  
Reactor Safety Branch

9/2/87

Date

Approved:

R. E. Ireland

R. E. Ireland, Chief, Engineering Section, Reactor  
Safety Branch

9/3/87

Date

Inspection Summary

Inspection Conducted August 3-7, 1987 (Report 50-458/87-19)

Areas Inspected: Routine, unannounced inspection of actions related to IE Bulletin (IEB) 85-03, IE Notice (IEN) 86-29, and previously identified findings identified in NRC Inspection Report 50-458/86-19.

Results: Within the areas inspected, no violations or deviations were identified.

DETAILS1. Persons ContactedGulf States Utilities (GSU)

\*R. J. King, Supervisor, Nuclear Licensing  
 \*J. H. McQuirter, Licensing Engineer  
 \*H. F. Roark, Supervisor, Electrical Maintenance  
 \*J. Hamilton, Director, Design Engineering  
 \*A. S. Soni, Supervisor, EQ and Specifications  
 \*J. Mead, Senior Electrical Engineer  
 \*P. E. Freehill, Outage Manager  
     A. Kugler, Process Systems  
     B. E. Hey, Nuclear Engineer  
     M. Henkel, Corporate Licensing Engineer

NRC

\*D. D. Chamberlain, Senior Resident Inspector  
 W. B. Jones, Resident Inspector

\*Denotes those present during the exit interview on August 7, 1987.

2. Inspection Summarya. IEB 85-03 (Open)

IEB 85-03, "Motor Operated Valve Common Mode Failure During Plant Transients Due to Improper Switch Settings," was issued as a result of several events during which motor operated valves (MOVs) failed on demand due to improper switch settings. The Bulletin requested that MOVs in certain systems be tested for operational readiness, and that licensees develop and implement a program to ensure that valve operator switches are selected, set, and maintained properly to accommodate maximum differential pressure expected during both opening and closing of the valve for both normal and abnormal events within the design basis. The licensee made submittals requested by the Bulletin to the NRC on May 14 and October 2, 1986.

This inspection was performed to followup on the licensee's activities taken in response to IEB 85-03 and commitments made by the licensee in submittals regarding the Bulletin. The status of the licensee's program was as follows:

- (1) Item e. of the Bulletin, which required a report of the design basis review of applicable valves and a program and schedule for completion of the program, was presented by the licensee in



the May 14 and October 2, 1986, submittals. Program completion is scheduled for November 15, 1987, and documentation of final results is to be presented within 60 days after program completion.

- (2) Establishment of switch settings, required by item b. of the Bulletin, is presently being done based on the revised Delta P values presented in the October 2, 1986, submittal. The settings will be incorporated into work packages to be used while adjusting valve operator switches in accordance with item c. of the Bulletin. It presently appears that operability of all valves cannot be demonstrated at the design basis Delta P; therefore, the licensee must justify an alternate method of meeting that requirement.
- (3) Item d. of the Bulletin requires that the licensee prepare procedures which incorporate details of initial switch settings and to ensure maintenance of correct switch settings throughout plant life. The licensee has just recently selected a contractor to perform valve testing; therefore, testing procedures had not been completed at the time of the NRC inspection. Several maintenance-related valve operator procedures were reviewed by the NRC inspector. Station operating Procedure CMP-1253, "Limitorque Motor Operated Valves" presented instructions for the inspection and setting of switches for all Limitorque valve operators at RBS and was being revised at the time of this inspection. The procedure will be utilized, in conjunction with the testing procedure, for setting valve operator switches at RBS.

This item will remain open pending NRC review during a future inspection.

b. IEN 86-29 (Closed)

IEN 86-29, "Effects of Changing Valve Motor Operator Switch Settings," was provided as an alert that setting torque bypass switches to meet requirements of IEB 85-03 could affect valve position indication and signals such as "permissives" to other equipment. The problem occurs when the torque bypass switch and valve position indicators share the same limit switch rotor. Therefore, when the position of the rotor is changed to adjust the range of the torque bypass switch, the closed position indication is also changed. The licensee has reviewed all valves and, when necessary, changed wiring so that the torque bypass switch and position indicators are on separate rotors.

This item is closed.

c. Previously Identified Inspection Findings

(1) (Closed) Deviation 458/8619-01

This deviation was written as a result of the licensee's failure to comply with commitments in the RBS Equipment Qualification (EQ) Document in the following areas:

- (a) The master list and system component evaluation work (SCEW) sheets listed 12 model SMC Limitorque valve operators which had not been qualified for a harsh environment.
- (b) SCEW sheets did not reference qualification test reports for control wiring which had been installed in Limitorque valve operators.

The following corrective action taken by the licensee was verified by the NRC inspector during this inspection:

- . The master list had been revised to show SMB operators, which are qualified, in place of the SMC operators.
- . SCEW sheets had been updated to show test reports which supported qualification of control wiring in Limitorque operators.
- . Procedures had been revised and were in place to implement the onsite EQ program including review and formal update of SCEW sheets, master lists, and qualification reports.

This item is closed.

(2) (Closed) Unresolved Item 458/8619-02

During the previous inspection, Franklin Report F-C4033-1, which was the licensee's basis for qualification of Raychem wiring inside Limitorque valve operators, was reviewed by the NRC inspector. The report did not stand alone in supporting qualification of the wire at the RBS environment; therefore, additional information was necessary to support qualification.

During this inspection, the NRC inspector reviewed calculation EQS-041 which, together with the Franklin report and other Raychem data, supported qualification of the wiring.

This item is closed.

(3) (Closed) Potential Violation 458/8619-03/04

An NRC walkdown inspection of eight Limitorque valve operators resulted in identification of unqualified control wiring in two



operators. As a result of this finding the licensee performed an audit at Limitorque at which time documentation for 72 RBS operators was found adequate but was found to be inadequate for the remaining 77 operators. The 77 operators with inadequate documentation were subsequently inspected by the licensee, and unqualified wires were replaced in 11 operators. Eighteen of the operators which had adequate documentation were also inspected and found acceptable. The remaining 54 operators, which had adequate documentation, were inspected in October 1986, and two unqualified wires were replaced in one operator.

In 1985, the licensee discovered unqualified wires in a spare operator, and at the time, inspected the 50 operators inside containment and 19 outside containment which were suspected to have unqualified wires. All Limitorque valve operators at RBS have been inspected and corrected as required. The actions taken by GSU indicate that the licensee did take timely and appropriate action to identify and correct the Limitorque wiring problem, based on the knowledge of the problem at the time.

This item is closed.

3. Exit Interview

An exit interview was conducted on August 7, 1987, during which time results of the inspection were reviewed with members of the GSU staff.

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