U. S. NUCLFAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION IV

Report No. 50-458/80-03

Docket No. 50-458/80-03 Category A2

Licensee: Gulf States Utilities Company
Post Office Box 2951
Beaumont, Texas 77704

Facility Name: River Bend Station, Unit No. 1

Investigation at: River Bend Station, St. Francisville, Louisiana

Investigation conducted: February 12-15, 1980

Inspector: W A Crossman 2/26/80
for C. R. Oberg, Reactor Inspector, Projects Section Date

Approved: W A Crossman 2/24/80
W. A. Crossman, Chief, Projects Section Date

Investigation Summary:

Investigation on February 12-15, 1980 (Report No. 50-458/80-03)
Areas Investigated: Special investigation of concerns received regarding conflict between cost of construction and nuclear safety; qualification of isolation valve; design review; and follow up of safety issues. The investigation involved eighteen inspector-hours by one NRC inspector.
Results: Through review of records and interviews, it was determined that none of the allegations or concerns could be substantiated.

INTRODUCTION

River Bend Nuclear Power Plant is under construction in West Feliciana Parish, St. Francisville, Louisiana. Gulf States Utilities Company (GSU) is the Construction Permit holder with Stone & Webster as the Constructor and Architect/ Engineer.

REASON FOR THE INVESTIGATION

Region IV was notified by Region I that an individual had contacted them regarding "concerns" at the River Bend Nuclear Power Station.

SUMMARY OF FACTS

On January 18, 1980, an inspector in the Projects Section of Region IV received a call from a Section Chief, in Region I who had received "concerns" (herein called allegations) from an individual who did not wish to be identified. The allegations are as follows:

Allegation No. 1

The primary concern at the project is cost without regard for nuclear safety.

Allegation No. 2

A Component Cooling Water isolation valve is not seismically qualified.

Allegation No. 3

Design review is not being done by GSU and Stone & Webster is not doing an adequate design review.

Allegation No. 4

The Stone & Webster Project Manager is not following up on safety issues.

Further specific details were not available on these allegations.

CONCLUSIONS

The following conclusions are based on known conditions at the River Bend site, a review of indicated records, and interviews with individuals during the period February 12-15, 1980.

Allegation No. 1

The allegation contending that the primary concern at the project is cost without regard for nuclear safety is found to be without merit. While it is true that the cost of construction is and will remain a primary concern to the licensee and his constructor, there is no evidence to indicate a disregard of nuclear safety during construction. On the contrary, while there are personnel whose specific responsibility centers around cost and scheduling, there are other personnel whose primary responsibility is directed to construction as it pertains to nuclear safety. They do not report to a common superior except upon the highest management level. The allegation cannot be supported on the evidence examined and personal discussions with responsible individuals.

Allegation No. 2

The allegation concerning the seismic qualification of Component Cooling Water system isolation valves could not be substantiated. PSAR and QA program evidence does, in fact, document and implement seismic qualification requirements for the procurement and installation of the system isolation valves. The design requirements of Regulatory Guide 1.48 and Appendix A to 10 CFR 50 are satisfied.

Allegation No. 3

The allegation pertaining to design review not being done by GSU is without merit. This is no requirement in the PSAR for GSU to perform design review. This has been delegated to Stone & Webster.

There was no specific information provided on the allegation that Stone & Webster is not doing an "adequate" design review. Therefore, it could not be substantiated.

Allegation No. 4

The allegation which involved the failure to follow up on safety issues by the Stone & Webster Project Manager is without merit. Corrective action and technical review are done by the Engineering Department and follow up of all safety items is the responsibility of the Project QA Manager.

DETAILS

1. Persons Contacted

Principal Licensee Employees

J. E. Wimberly, Construction Manager
T. L. Crouse, Director, Quality Assurance
D. Mechatto, Supervisor, Cost & Scheduling (Auditors)

Other Personnel (Stone & Webster)

W. I. Clifford, Resident Manager (Construction)
C. D. Lundin, Project Quality Assurance Manager

The IE inspector also talked with and interviewed other licensee employees and contractor personnel including members of the QA/QC and engineering staffs.

2. Background Information

On January 18, 1980, the Region IV office was contacted by Region I regarding an individual's "concerns" regarding construction activities at River Bend. The identity of the individual was not revealed. In summary, his concerns are as follows:

a. The primary concern at the (River Bend) project is cost without regard for nuclear safety.

b. A Component Cooling Water isolation valve is not seismically qualified.

c. Design review is not being done by GSU and Stone & Webster is not doing adequate design review.

d. The Stone & Webster Project Manager is not following up on safety issues.

These concerns were identified to and discussed with licensee personnel who are responsible for costs, scheduling and quality of construction.

3. Investigation

Allegation No. 1

The primary concern at the (River Bend) project is cost without regard for nuclear safety.

The IE inspector reviewed documentation, procedures, and QA program requirements, and held discussions with site personnel regarding cost and quality controls.

The questions considered in the review were:

a. How are costs controlled?

b. How is quality controlled?

c. Is there a conflict between cost and quality control?

These questions were examined in relation to current construction efforts.

The IE inspector established that project costs are controlled through a system of projecting target costs in manhours (HM), documenting expended MH against project tasks (established in CPM program) and monitoring any significant MH overruns and under expenditures. Productivity is monitored by GSU cost and scheduling personnel on site.

The IE inspector determined that the quality of the job is controlled in two ways:

a. The construction forces are committed to build a quality plant (meet specification requirements) within costs prescribed by GSU management.

b. Quality Assurance personnel are committed to ensure that all construction does, in fact, meet the prescribed levels of quality identified in the specifications and CP commitments.

The IE inspector also determined that the constructor and utility QA programs overlap in their coverage. In both the constructor organization and in the GSU organization, the QA directors do not have responsibilities for or are they limited by cost and scheduling considerations. Time for Field Quality Control (FQC) inspection is provided in the Stone & Webster construction schedules. GSU QA engineers review all Work Package Change Notices (WPCN) for the ability to perform QA/QC functions. All WPCNs are approved by GSU.

The IE inspector observed in his review of the Stone & Webster Quality Assurance program that SWSQAP 1-74A (Rev. A) states in the introduction:

> "It is the policy and objective of the Stone and Webster Engineering Corporation to engineer and construct a quality power station, on a timely basis, in accordance with contractural and regulatory requirements."

In his review of the audit program, the IE inspector found that audits are conducted by Gulf States and Stone & Webster Corporate QA organizations on a regular basis. In addition, commercial audits are also conducted. The QA audits are concerned with quality, while the commercial audits are concerned with costs and schedules. Problems in quality are documented by the FQC/QA organizations and controls exist to ensure corrective action. Quality accountability is required of construction supervisors by Stone & Webster management through Stone & Webster Construction Methods Procedure CMP 3.1, "Triple CP Program, Construction, Control and Completion Program," Revision A, August 31, 1979.

The IE inspector concluded that an acceptable organization exists which effectively separates quality monitoring and cost monitoring and no conflict of responsibility exists between cost and quality control.

Allegation No. 2

A Component Cooling Water isolation valve is not seismically qualified.

The IE inspector conducted a review of requirements for Component Cooling Water isolation valves. The Component Cooling Water system is also called the "closed cooling water system for reactor service." This system will use water from the site service water source to provide cooling for selected nuclear system equipment. Its purpose is to provide a second barrier between the primary system containing radioactive products and the service water systems. To isolate this system in the event of an abnormal condition, remote controlled valves are provided in accordance with Regulatory Guide 1.26, "Quality Group Classification and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants." Criterion 57 of Appendix A to 10 CFR 50, "Closed System Isolation Valves," requires that each line, which penetrates the primary reactor containment and is not connected directly to containment atmosphere nor is part of the reactor coolant pressure boundary, shall have at least one containment isolation valve outside containment. The valve is to be either automatic, or locked closed or be capable of remote manual operation.

The IE inspector reviewed Stone & Webster Construction Specification 228.212-047-4 (Addendum No. 2, 3/9/76), "Motor Operated Carbon Steel Valves," which is made part of the procurement document package. Stone and Webster print 2210-FSK-9-1G, "Reactor Plant Component Cooling Water," was also reviewed. This print identifies five motor operated valves: MOV 137, MOV 138, MOV 157, MOV 158 and MOV 159. (See Figure 1 for a sketch of the system for valve location.) The specification (Appendix A) identifies MOV 158, MOV 159 and MOV 138 as requiring seismic qualification. The PSAR, Table 7.3.1-5 identifies Criterion 57 of Appendix A (10 CFR 50) as applicable to this type of motor operated valve.

The IE inspector determined that the system isolation valves MOV 138, MOV 158 and MOV 159 are being manufactured by Velan and have not been delivered to the site. These valves have received a design review in accordance with ASME, Section III and a functional qualification test to meet the requirements of Regulatory Guide 1.48, "Design Limits and Loading Combinations for Seismic Category I Fluid System Components."

The IE inspector also reviewed the FQC inspection plan for motor operated carbon steel valves 2½" and larger and determined that FQC will review the specification and purchase orders and any exceptions to the specification. Specifically, they will verify that the seismic certification of compliance is properly stamped and approved by a registered professional engineer. A professional engineer will also review the seismic analysis report to determine if seismic design requirements have been met.

Based on the above information, the IE inspector concluded that the seismic requirements for Reactor Plant Component Cooling Water isolation valves have been established, and that sufficient controls exist to ensure that the valves are designed, manufactured and will be delivered to meet regulatory seismic requirements. This allegation could not be substantiated.

Allegation No. 3

Design review is not being done by GSU. Stone and Webster is not doing an adequate design review.

The IE inspector reviewed the River Bend PSAR, Section 17.1.3A, "Design Control," and noted that it states, "Gulf States performs no design review of safety related equipment."

Further review by the IE inspector established that design review responsibilities by Stone & Webster are clearly defined in the PSAR and related QA documents. Controls have been established by GSU QA for internal review and audit of Stone & Webster activities in this area. Lack of specific information prevented further review of this allegation

Allegation No. 4

The Stone & Webster Project Manager is not following up on safety issues.

In his review of the PSAR, the IE inspector noted that Section 17.1.16B, "Corrective Action," gives the responsibility for follow through to the Project QA Manager[1/] of corrective actions resulting from audits conducted by Stone & Webster, GSU and NRC. He also noted that the Project Manager exercises fiscal and management control of the site, but not technical control. This control is vested in the QA organization and in the Engineering Division.

The IE inspector verifed that control of the technical review of safety issues (N&Ds) is vested in the Engineering Department.

1/The current manual identifies a "QA Coodinator." However, a change to the PSAR now in the process of being submitted will identify the correct individual.

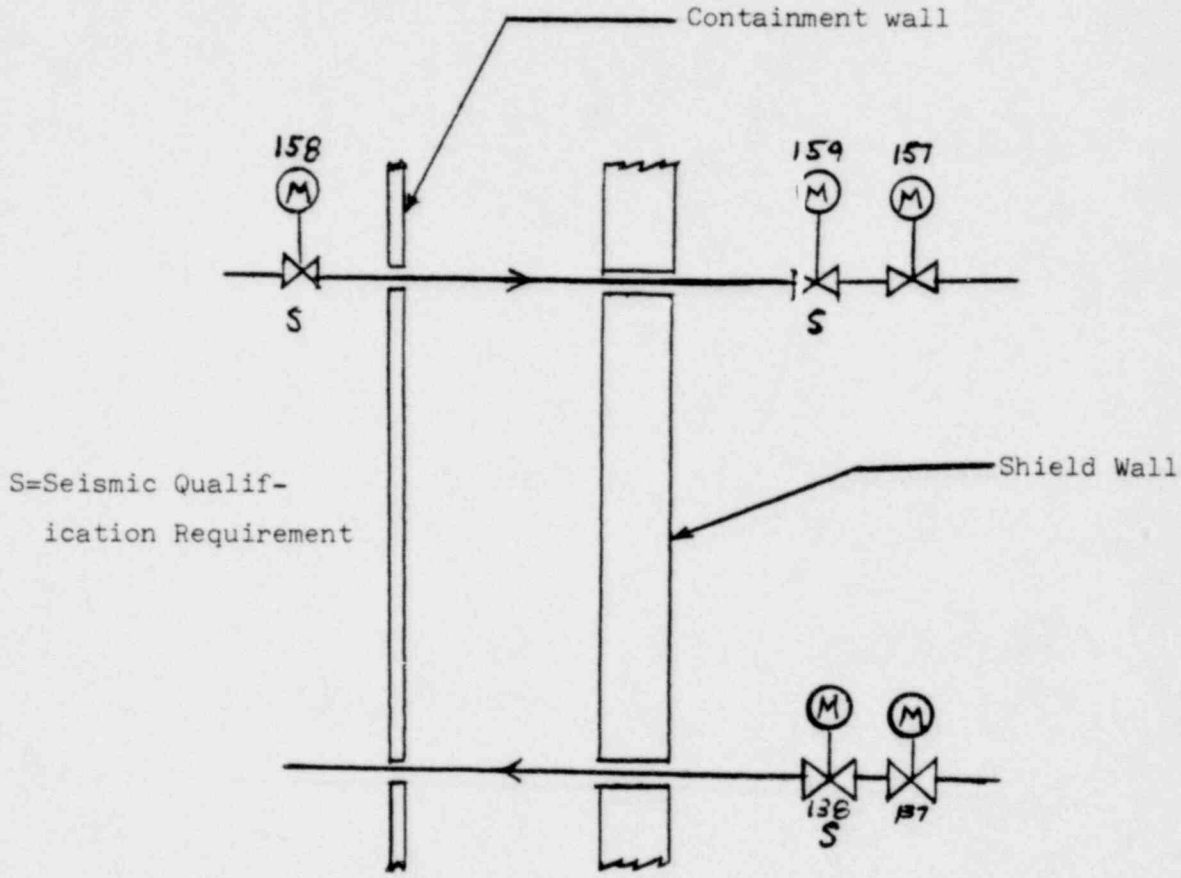

FIGURE (1)

Source: S&W Engineering Corporation
2210-fsk-9-1G

REACTOR PLANT COMPONENT COOLING WATER