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

REGION IV

Report No. 50-445/79-27; 50-446/79-26

Docket No. 50-445; 50-446 Category A2

Licensee: Texas Utilities Generating Company
2001 Bryan Tower
Dallas, Texas 75201

Facility Name: Comanche Peak, Units 1 & 2

Inspection at: Comanche Peak Steam Electric Station, Glen Rose, Texas

Inspection conducted: November 1979

Inspector: for R. G. Taylor, Resident Reactor Inspector, Projects Section — Date: 1/4/80

Approved: W. A. Crossman, Chief, Projects Section — Date: 1/4/80

Inspection Summary:

Inspection During November 1979 (Report No. 50-445/79-27; 50-446/79-26)
Areas Inspected: Routine inspection by the Resident Reactor Inspector (RRI) of construction progress and practices; follow up on previously identified inspection findings; Quality Assurance procedures; electrical cable installation specifications and procedures; piping system supports; welding of reactor coolant and other safety-related piping systems; and a review of the verification program for weld quality in selected Class III piping systems. The inspection involved eighty-three inspector-hours by one NRC inspector.
Results: Of the seven areas inspected, no items of noncompliance or deviations were identitified in five areas. One apparent item of noncompliance was identified in each of the two other areas (infraction - failure to revise obsolete Quality Assurance procedures - paragraph 5; infraction - failure to follow procedures for hoisting safety-related components - paragraph 4.)

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DETAILS

1. Persons Contacted

Principal Licensee Employees

*R. G. Tolson, TUGCO, Site QA Supervisor
*J. R. Merritt, TUSI, Construction and Engineering Manager

Others

*J. V. Hawkins, Brown & Root, QC Supervisor
*J. P. Clarke, Brown & Root, Project QA Manager
P. Van Teslaar, Westinghouse Nuclear Services Division, Site Manager

The RRI also interviewed other licensee and Brown & Root employees during the inspection period.

*Denotes those persons with whom the RRI held on-site management meetings during the inspection period.

2. Action on Previous Inspection Findings

(Closed) Unresolved Item (50-445/79-16): Electrical Cable Tray Support Fabrication-CB&I. The licensee notified RIV that this item has been determined to be reportable under the Criteria of 10 CFR 50.55(e) and that he had submitted the required report dated November 14, 1979. Data supportive to the report has been reviewed by the RRI and appears complete. The rework of the defective hangers will be inspected by the RRI and other NRC inspectors under the routine inspection programs. The RRI had no further questions regarding this matter.

(Closed) Unresolved Item (50-445/79-23; 50-446/79-22): Two Procedures for Operational Travelers. The licensee elected to delete CP-QP-2.3, Revision 0 in favor of the joint Construction-Quality Assurance Administrative Control Procedure CP-CPM-6.3. The RRI had no further questions on this matter.

(Open) Deficiency (50-445/79-18): Failure to Control Inspection Stamps. The licensee and Brown & Root use of numbered inspection stamps has been discontinued and the related procedure has been deleted from the QA/QC system. The licensee is in the process of reviewing various quality records to determine if any of the lost and/or unaccounted for inspection stamps were used to document inspections during the period when controls were ineffective. The RRI will review the results of the document search during a future inspection.

3. Site Tours

The RRI toured the safety-related plant areas several times weekly during the inspection period to observe the progress of construction and the general practices involved. Due to a very limited scope of construction on the second shift, where safety-related work was involved, no inspection effort was devoted to the second shift activities in this inspection period.

No items of noncompliance or deviations were identified during these general tours.

4. Reactor Pressure Boundary Construction Activities

The RRI made several observations of the methods of handling and installing various reactor pressure boundary components during the period. In most instances, the methods were consistent with good industry practices, but in one other instance the RRI observed that the rigging used to hoist and position a large motor operated valve appeared to be uncontrolled. The RRI discussed the rigging with the craft labor person who appeared to be in charge relative to what instructions had been given to him. This person indicated that he had received no instructions and wished that he had some. The site "General Piping and Inspection Procedure" (CPM 6.9) requires that the manufacture's recommendations be reflected in the installation instruction and further that any hoisting operation involving loads on the building shell of over 2000 pounds be referred to engineering for review prior to making the hoist. Reference to the manufacturer's data indicated that the valve weighed in excess of 4000 pounds.

The RRI informed the licensee of the situation which was quickly halted. The absence of any instructions to the craft and the failure to follow the requirements of CPM 6.9 indicated to the RRI that a QA programmatic breakdown had occurred sufficient to warrant the issuance of a Notice of Violation for noncompliance to Appendix B of 10 CFR 50.

The RRI also conducted a short investigation into an allegation which was received by the RIV office on or about November 8, 1979, relating to the exact location of the Reactor Pressure Vessel in Unit 1. The allegation was made by a former field engineer (surveyor) for Brown & Root who indicated that the vessel was located 3/16 inch to the west of the north-south design centerline through the containment. The RRI ascertained from Westinghouse personnel that their requirements for locating the vessel relate to azimuth and levelness with a secondary concern for elevation. The exact location in terms of the vessel centerline, in relation to the containment centerline, was of little

or no concern to them, since the components attached to the vessel, via the piping, all have substantial adjustment capability. The RRI also interviewed the Brown & Root QC inspector who had been involved in the vessel installation, which occurred in mid-1978, and the current head of the field engineers who was then a general foreman in the same group and was in direct charge of the survey work. The inspector related that he had verified the location of the vessel from a provided fixture against established bench marks in the containment as required by the installation procedure. The engineer subsequently described to the RRI how the bench-marks had been derived. The method used should not have created an error amounting to 3/16 inch although either a human error in calculations or in measurement could conceivably have happened. The engineer also indicated that the party making the allegation (identified to him by the RRI) had not been involved in the survey work relating to the vessel and could have had no first-hand knowledge of any survey errors.

Based upon the interviews and upon first-hand knowledge of the reactor coolant system installation, the RRI advised RIV that it was improbable that the vessel was actually mislocated, but that it if were, it would have no safety or operational consequence.

No further questions in the matter were raised either by the RRI or other RIV personnel.

5. Quality Assurance Procedures

As noted in Inspection Report 50-445/79-18, the licensee has made substantive changes in his site Quality Assurance organization and other like changes have occurred in the Brown & Root organization. As also noted in that report, the RRI was informed of each of these changes in advance and had no immediate concern since most of the changes appeared to enhance the overall effectiveness of QA/QC.

During this inspection period it came to the attention of the RRI that the licensee and Brown & Root had failed to revise the organization control procedures to reflect the changes and that there were other procedures in the manuals which assigned functional requirements to personnel by titles which no longer existed. The RRI identified at least nine procedures in the licensee and/or Brown & Root manuals that were known to be obsolete for two or more months since they no longer represented the organization in place nor did they describe how certain activities were being accomplished in practice.

The licensee was advised that the practice of making substantive changes without immediate addressment in appropriate procedures placed them in noncompliance with Criterion V of Appendix B to 10 CFR 50. The general condition and the nine procedures identified by the RRI were identified to the licensee in a Notice of Violation forwarded on November 21, 1979.

6. Safety Related Electrical Cable Installation

The licensee's cessation of work in this area continued throughout the inspection period. During the period, the RRI reviewed a revised portion of the Project Electrical Installation Specification, ES-100, which deals with the actual installation efforts and with results to be achieved. The basis for the RRI review was the various standards published by the Institute of Electrical and Electronic Engineers (IEEE) to which the licensee has committed to comply with in Chapters 7 and 8 of the FSAR. The RRI also reviewed the production and Quality Control procedures for compatibility to the specification and to each other.

No items of noncompliance or deviations were identified.

7. Piping System Supports

The RRI observed the work related to making two modifications required by documented engineering changes to hanger CT-1-097-404-C52R. The welder observed was determined to have been properly qualified for the work in accordance with ASME, Section IX as was the welding procedure being followed. The RRI also reviewed the weld filler metal certified material test reports for consistency with ASME, Section II requirements.

The RRI observed, during a plant tour, several hanger drawings which reflected that the described hangers were in Class 5. Amendment 7 of the FSAR in Chapter 3.2 defines Class 5 as a seismically supported pipe having no safety role, but whose failure could reduce the effectiveness of some other safety-related component. The FSAR indicates that certain lines, two inches and smaller, would not be classified as Class 5. The hanger drawings involved lines under two inches classified as Class 5 but designed such as to provide little or no movement restraint to seismic excitation. The RRI initiated discussions with licensee personnel only to be informed that an investigation had just been initiated into the entire Class 5 support design and Quality Assurance areas.

This matter will be considered an unresolved issue pending completion of the licensee's investigation and clarification of the FSAR definition.

8. Reactor Coolant and other Safety System Welding

The RRI observed portions of three piping system welds being made during the period. These were:

a. Field Weld FW-6 as shown on isometric drawing SI-1-SB-08 in Safety Injection system line 6-S1-1-070-151R2

b. Field Weld FW-6 as shown on isometric MS-1-RB-004 in Main Steam line 32-MS-1-02-1303-2

c. Field Weld FW-2 as shown on isometric RH-1-RB-001 in the Reactor Coolant System Pressure Boundary in the Residual Heat Removal system The line designation is 12-RH-1-001-2501R1.

The three welding procedures and five welders involved were found to have been qualified in accordance with ASME, Section IX. The weld filler metals and components being joined by each of the welds were verified by documentation review to be consistent with the requirements of Sections II and III as appropriate.

The RRI also reviewed the following radiographs pertaining to safety Class I piping system welds for compliance to ASME, Section III requirements:

Weld Id.	Isometric	Line	Safety Class
19	BRP-CS-1-RB-23	3-CS-1-076-2501R1	1
21	"	"	"
18	"	"	"
20	"	"	"
11A	BRP-CS-1-RB-26	3-CS-1-019-2501R1	"
14	BRP-CS-1-RB-38C	3-CS-1-235-2501R1	"
9	BRP-SI-1-RB-56	6-SI-1-089-2501R1	"
8A	"	"	"
4	"	"	"
5	"	"	"
5	BRP-RC-1-RB-05	6-RC-1-008-2501R1	"
3	"	"	"
6	"	"	"
7	BRP-RC-1-RB-08	3-RC-1-052-2501R1	"
2A	"	"	"
2	BRP-RC-1-RB-16	6-RC-1-147-2501R1	"
1	"	"	"

9	BRP-SI-1-RB-16	6-SI-1-101-2501R1	"
9	BRP-SI-1-RB-33	3-SI-1-033-2501R1	"

No items of noncompliance or deviations were identified.

9. Safety Class III Weld Quality Verification

The RRI reviewed the licensee's implementation of his commitment to radiograph and repair as required the field welds in the Component Cooling Water system and in the steam generator Auxiliary Feedwater system. See Inspection Reports 50-445/79-12 and 79-17 for discussions of this commitment. The RRI reviewed program control records maintained by Brown & Root Welding Engineering which reflect the number of welds examined to date and the action taken on each weld. The RRI selected eleven welds at random from those indicating initial acceptance, acceptance after repair and those shown as still in repair processing to obtain an overall view of implementation. Seven of the eleven welds had been determined by welding engineering to be acceptable and the radiographs were reviewed by the RRI. The balance were verified to be in repair status.

No deviation to the commitment was identified.

10. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. One such item is discussed in paragraph 7 of this report and will be hereafter referenced as "Class 5 Piping System Supports."

11. Management Interviews

The RRI met with one or more of the persons identified in paragraph 1 on November 6, 7, 15, 16, 20, 21 and 30, 1979, to discuss various inspection findings and to discuss licensee actions and positions.