APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/84-34
50-446/84-13

Construction Permits: CPPR-125
CPPR-126

Dockets: 50-445
50-446

Licensee: Texas Utilities Electric Company (TUEC)
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES) Units 1 and 2

Inspection At: Glen Rose, Texas

Inspection Conducted: August 26, 1984, through October 20, 1984

Inspector: J. E. Cummins
J. E. Cummins, Senior Resident Reactor Inspector Construction

11/20/84
Date

NRC Contract Personnel: R. P. Evans, Project Engineer, EG&G Idaho

Approved: D M Hunnicutt
D. M. Hunnicutt, Team Leader
Region IV Task Force

11/20/84
Date

Inspection Summary

Inspection Conducted August 26, 1984 - October 20, 1984 (Report 50-445/84-34)

Areas Inspected: Routine, announced inspection of plant status, action on previous NRC inspection findings, action on licensee identified design/construction deficiencies (10 CFR 50.55(e) reports), inspection and enforcement bulletin followup, onsite followup of safety evaluation report open items, followup of potential enforcement issues identified by the special review team, and plant tours. The inspection involved 160 inspector-hours onsite by one NRC inspector and one NRC contract person.

Results: Within the seven areas inspected, two violations were identified (failure of inspection to identify nonconformance in support installations,

paragraph 7; and failure to notify the NRC as required by 10 CFR Part 50.55(e), paragraph 4).

Inspection Summary

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

DETAILS

1. Persons Contacted

*J. T. Merritt, Assistant Project General Manager, Texas Utilities Generating Company (TUGCO)
*A. Vega, Site Quality Assurance (QA) Manager, TUGCO
R. Baker, Staff engineer, TUGCO
R. Scott, QA Managers Staff, TUGCO
C. Welch, QA Managers Staff, TUGCO
W. Baker, Senior Project Weld Engineer, Brown & Root (B&R)
G. Purdy, Site QA Manager, B&R
S. Spenser, Senior QA Auditor, TUGCO

The NRC inspectors also contacted other plant personnel including members of the construction, operations, technical, QA, and administrative staffs.

*Denotes those attending one or more exit interviews.

2. Plant Status

Unit 1

At the time of the inspection, construction of Unit 1 is 98% complete. The fuel loading date for Unit 1 is pending based on the results of ongoing NRC reviews. The licensee continues to complete and turnover systems and areas from construction to operations. The turnover process is accomplished in two phases. The first phase takes place when construction completes a system or area and turns that system or area over to the startup group. The turnover process is completed for a system or area when operations makes final acceptance of the system or area from the startup group. The table below shows the status, as of October 19, 1984, of the 422 distinct areas identified by the licensee for turnover from construction to operations:

Total number of areas	422
Number of areas submitted to startup	403
Number of areas accepted by startup	403
Number of areas submitted to operations	403
Number of areas accepted by operations	117

The table below shows the status, as of October 19, 1984, of the 332 distinct subsystems identified by the licensee for turnover from construction to operations:

Total number of subsystems	332
Number of subsystems submitted to startup	332
Number of subsystems accepted by startup	332
Number of subsystems submitted to operations	285
Number of subsystems accepted by operations	209

Unit 2

At the time of this inspection, construction of Unit 2 is approximately 65 percent complete with fuel loading scheduled for approximately 18 months after the Unit 1 fuel load.

3. Action on Previous NRC Inspection Findings

a. (Closed) Severity Level V Violation 445/8225-02: Certification of Inspectors.

The Level III inspector whose certification was erroneously issued with a five year certification period was recertified on July 13, 1982. The licensee has implemented a matrix system for tracking inspector certifications to avoid a recurrence of this type. On August 8, 1984, the NRC inspector reviewed inspector certification records and found no instance where the expiration date was missing from the certification record.

b. (Closed) Severity Level V Violation 445/8225-01: Vendor Audits

Licensee corrective action for each item of this violation is discussed below:

Item B.1 - The procedure for conducting vendor audits, CQI-CS-4.5, was revised in June 1981 to include the requirement to have an audit plan for each audit.

Item B.2 - The licensee has placed a memo in the audit files describing the purpose and extent of the audit.

Item B.3 - Procedure DQI-CS-4.5, "Conduct of Vendor Audits," was changed by Revision 5, dated February 15, 1983, to include open items from previous audits on the audit plan.

The corrective actions appeared to be acceptable.

c. (Closed) Severity Level IV Violation 445/8323-01: Inspection Program.

The NRC inspectors verified that the licensee's corrective actions were adequate by reviewing applicable procedures, records, and

revised drawings and by inspecting the installation of selected components in the field. Specifics for each of the nonconforming conditions identified in this violation are discussed below:

Item 1.a - Cable tray supports deviated from final design documents; the licensee issued component modification card (CMC) #8230 Revision 4, for cable tray support #1848 and CMC #90786, Revision 2, for cable tray support #1979 to clarify and accept the as-built conditions of these supports.

Item 1.b - Conduit hilti bolt installation deviated from minimum spacing requirement; The licensee issued CMC #93597 giving engineering approval for this condition as required in Attachment 5, Table 2 of Procedure QI-QP-11.2-1, Revision 16, "Installation of Hilti Drilled-in Bolts."

Item 1.c(1) - Large bore ASME pipe supports deviated from final design documents; Support drawings SF-X-002-026-F53R, SF-X-002-025-F53R, SF-X-005-015-F43S, and SF-X-033-006-F43R have been revised to reflect as-built conditions. No drawing revision was required for support SF-X-024-010-F43R as the questionable dimension was reverified and found to be within allowable pipe location tolerances.

Corrective action for support SF-X-033-006-F43R required the replacement of the support plate all thread rod identified by the NRC as a deficiency. Inspection by the licensee determined that the rod, as installed, did not meet the minimum embedment requirement. Replacement of the rod was documented on NCR M-8000S and related documents.

Item 1.c(2) - Broken cotter pin on support SF-X-004-006-F43R; Procedure CP-QAP-12.1, Revision 11, ASME Section III, "Installation Verification and N-5 Certification," was changed so that the installation of miscellaneous hardware, including cotter pins, is verified by QC inspectors.

Item 1.d - Small bore ASME pipe supports deviated from final design documents; Support drawings H-CS-X-FB-003-001-3 and H-CS-X-FB-004-003-3 have been revised to reflect as-built conditions. Support drawing H-CH--X-FB--003-010-3 did not require revising since shims in question were verified to be installed in accordance with the drawing.

Corrective action also included adding more QC inspector verification checks in Procedure QI-QAP-11.1-28, Revision 25, "Fabrication and Installation Inspection of Safety Class Component Supports."

We have made no conclusions at this time concerning overall QA/QC effectiveness from the instances discussed above in which QC inspections failed to identify installation discrepancies. These items will be considered in conjunction with QA/QC inspection related findings from other NRC inspections and the NRC Technical Review Team (TRT) when overall QA/QC effectiveness is evaluated.

d. (Closed) Unresolved Item 445/8323-04: Cable Tray Bolting

The licensee subsequently reported this condition to the NRC on significant deficiency analysis report CP-83-15, and issued 21 NCRs to inspect and rework nonconforming cable tray clamp installations. The NRC inspector reviewed completed NCR M-83-01629, Revision 1, which documented the inspection and rework of cable trays in the fuel building. NRC inspectors have inspected cable tray installations as a part of subsequent room inspections and no additional instances of this type nonconformance were identified (see NRC Inspection Report Nos. 50-445/84-05; 50-445/84-16; and 50-445/84-26).

e. (Closed) Unresolved Item 445/8116-01: Installation of steel structural access platforms.

The licensee issued DCA-12,449, Revision 1, which revised Specification 2323-55-16A, Structural Steel (Non-Category I), so that all structural steel items including platforms, monorails and stairways installed in Category I buildings were classified as seismic Category II.

By interviews with cognizant licensee personnel and reviewing the procedures and documents listed below, the NRC inspector verified that an inspection program for Seismic Category II items installed in Seismic Category I structures was in place and that the program appeared to be functioning.

(1) CP-QP--11.14, Revision 1, "Structural Steel Inspection Activities"

(2) QI-QP-11.14-5, Revision 10, "Inspection of Platforms and Stairways Installed in Seismic Category I Structures"

(3) Construction operation travelers CP-82-031-8902, CP82-070-8903, CP82-076-8403, and CP82-119-8904. These travelers document portions of backfit work performed on structural steel platforms.

The licensee actions appeared to be acceptable.

f. (Closed) Unresolved Item 445/8315-01: Review of Preservice Ultrasonic Examination.

The NRC inspector determined the following from reviewing the licensee's responses and discussing specifics of the responses with cognizant licensee representatives:

(1) The NDE procedure review process included review and approval by the licensee's QA organization and by the authorized nuclear inservice inspector.

(2) Certification records of examiner personnel were available and in order. The subcontractor was an approved supplier for ASME tasks.

(3) Licensee personnel assigned to the site had indepth knowledge of the preservice inspection program and could have clarified the meaning of the notation.

The licensee actions appeared to be acceptable.

g. (Closed) Unresolved Items 445/8315-02, 446/8309-04: Vendor radiograph problems with Borg-Warner valves.

The NRC inspectors verified by discussions with cognizant licensee personnel and review of applicable records that licensee corrective action was adequate. Specifics of each of the valves identified in the unresolved item as having a problem are discussed below.

Valve Serial Number 14116; The radiograph was produced on November 27, 1976. The NRC inspector finding was made during the time period from April 18 to May 6, 1984. The assumption that the darkening of film with age caused it to exceed the allowable limit was acceptable.

Valves Serial Numbers 25-425, 27934 and 44107; The licensee radiographed the questionable areas identified during review of each of the original valve radiographs. The NRC inspector reviewed the radiographs of the questionable areas and found them to be satisfactory.

Valve Serial Number 73009; The NRC inspector determined that although the placement of the pentrameter was partially over the area of interest, no portion of the weld was masked that would have prevented proper interpretation of the radiograph.

The licensee actions appeared to be acceptable.

h. (Closed) Unresolved Item 445/8105-01: Emergency Diesel Generators-Clarification of Final Safety Analysis Report (FSAR) requirements.

Amendment 29 to the FSAR changed applicable parts of Section 9.5.4, "Diesel Generator Fuel-oil Storage and Transfer System," and Section 9.5.6, and Section 9.5.6, "Diesel Generator Starting System," to require that components and component supports in these systems were designed to ASME Boiler and Pressure Vessel Code Section III, Class 3, and component supports were fabricated as a minimum to AISC-1970. NCR M-80-00009, Revision 6, documented the inspections, analysis and rework performed on the emergency diesel generator component supports. The NRC inspector reviewed selected documents related to the inspection and rework of diesel generator component supports. The documents reviewed included inspection reports, component modification cards, welding procedures, welder qualification records, and material certifications.

The licensee activities appeared to be acceptable.

No violations or deviations were identified.

4. Action on Licensee Identified Design/Construction Deficiencies (10 CFR Part 50.55(e) Reports)

a. The 10 CFR Part 50.55(e) report discussed below was reviewed by the NRC inspector and closed. The 10 CFR 50.55(e) report was reviewed for content, compliance with NRC requirements for reporting, appropriate evaluation, and adequacy and implementation of corrective action. Each 10 CFR Part 50.55(e) report was identified and tracked by the unique licensee assigned number shown at the beginning of the discussion.

CP 81-07, supplied orifice plates outside specified tolerance. Licensee letter TXX-3527, dated June 11, 1982 reported to the NRC that evaluation of this deficiency had determined that it was reportable. The corrective action was to scrap all the orifice plates received from the supplier of the nonconforming orifice plates and obtain replacements from another vendor.

b. During reviews of licensee documentation, the two deficiencies discussed below came to the attention of the NRC inspectors. A review of documentation related to the deficiencies indicated to the NRC inspectors that these two deficiencies appeared to meet the requirements for reporting delineated in 10 CFR Part 50.55(e), but had not been reported.

(1) 10 CFR Part 50.55(e) requires the licensee to report to the NRC any deficiency found in design and construction which if it were to have remained uncorrected could have adverse effects on the safe operation of the nuclear power plant at any time throughout the expected lifetime of the plant, and which represents a significant breakdown in any portion of the QA program conducted in accordance with the requirements of 10 CFR Part 50, Appendix B.

NCR M-84-100108 Revision 2, documented a case in which a QC record was falsified in that one of the QC signatures on the record was forged. The falsification of QC records represented an apparent breakdown in the inspection portion of the QA program and if the practice were to have gone uncorrected it could have adversely affected safe operations of the nuclear plant.

(2) Gibbs and Hill, Inc., letter to Texas Utilities Generating Company, GTN-55221, dated September 9, 1981, documented the misranging of several instruments and instrument set points on several safety-related systems. Design Change Authorizations (DCAs) were issued to correct the range problems either by reranging, recalibrating or reprocuring the instruments. The

following DCAs were involved: DCA 8771, 8996, 9602, 9934, 10266, 10267, 10450, 10761, 12525, 12635, 12667, 12668, and 12783. The design errors in the ranges and/or setpoints of the instruments represents an apparent deficiency in the final design and a breakdown in the QA program in not identifying the problems. If the incorrectly aligned instruments had been used and the situation gone uncorrected, it could have adversely affected safe operation of the nuclear plant.

Failure to report these deficiencies to the NRC in accordance with 10 CFR 50.55(e) is a violation (445/8434-02).

5. Inspection and Enforcement Bulletin (IEB) Followup

The NRC inspectors reviewed the licensee's file for each of the IEBs discussed below and performed inspections when required to verify that the licensee had conducted an adequate review to determine if the IEB was applicable to the CPSES facility, and to verify that the licensee had taken the required action on applicable IEBs.

a. IEB 79-15: Deep Draft Pump Deficiencies

This bulletin was applicable to the four service water pumps used at CPSES. The Unit 1 service water pumps have been in operation since March 1981, and have not required any significant repairs. The Unit 1 pumps have been tested as a part of the service water system in accordance with Preoperational Test Procedure 1-CP-PT-04-01, Revision 1, "Station Service Water." The licensee has instituted procedural requirements that accomplish operation, testing, repair, and inservice inspection of these pumps. These procedures were:

OPT-207A, Revision 0, "Service Water System Operability"

MMI-310, Revision 0, "Service Water Pump Inspection"

No further questions are required of this matter at this time.

b. IEB 83-08: Electrical Circuit Breakers With an Undervoltage Trip Feature in Use in Safety-Related Applications Other Than the Reactor Trip System.

The licensee's response letter TXX 4136, dated April 2, 1984, stated that a review of CPSES electrical systems determined that no circuit breakers (other than those used for reactor trip purposes) provided with the "undervoltage trip" feature were used or were planned for use at CPSES.

No further questions are required of this matter at this time.

SER Sections: SER Section 2.4.6, page 2-21.

Subject: Groundwater Field Monitoring Program

Findings: The licensee had implemented Environmental Manual Procedure ENV-306, Revision 1, "Static Level Ground Monitoring System." This procedure provided instructions for monitoring ground water level by measuring the static water level in three wells on a monthly basis. The location of these wells with respect to the CPSES site is indicated below:

Well	Direction	Direct Distance (Miles)
G-2	SSE	1.4
G-3	W	1.8
G-4	N	1.2

The NRC inspector reviewed a draft copy of Revision 2 to Procedure ENV-306. Revision 2 changed the procedure to include a mean sea level (MSL) reference point at each well and instructions for converting the measured static water level to a MSL. Revision 2 also identified the need to take action if the ground water level exceeded 775 feet MSL.

No violations or deviations were identified.

7. NRC Region IV Followup on SRT Findings

During the period from April 3, 1984, to April 13, 1984, an NRC SRT conducted a review at the CPSES site of activities related to construction, inspection and testing. Details of the SRT review were documented in a report and a copy of this report was transmitted to TUGCO via letter, dated July 13, 1984.

Region IV NRC inspection finding and action on each of the potential enforcement items identified by the SRT is discussed below.

a. Nonconformance in Pipe Support Installation

Details of this item were discussed in Section E.b.(8), page 37, of the SRT report.

The NRC SRT inspector determined from a field inspection that two supports, which had been inspected by the licensee's QC inspectors, had not been installed in accordance with design requirements. Specifically, sway strut CC-1-295-005-C53R was installed so that it exceeded the 5 degrees maximum offset angle specified in Section 2.c, Attachment 4 of Procedure QI-QAP-11.1-28, Revision 23, "Fabrication and Installation Inspection of Safety Class Component Supports." Mechanical snubber MC-1-151-025-C53k was installed so that it exceeded the 5 degrees maximum offset angle specified in Section 5.7.a of Procedure QI-QAP-11.1-28A, Revision 5, "Installation

Mechanical snubber MC-1-151-025-C53k was installed so that it exceeded the 5 degrees maximum offset angle specified in Section 5.7.a of Procedure QI-QAP-11.1-28A, Revision 5, "Installation Inspections of ASME Class 1, 2 and 3 Snubbers." The failure of QC to identify these installation nonconformances between design requirements and the installed components is a violation of Criterion X of Appendix B to 10 CFR Part 50 (445/8434-01)

b. ASME Record Packages not Maintained in a Fire Proof Container

Details of this item were discussed in Section B.4.b. page 9, of the SRT report, dated July 13, 1984.

The NRC SRT inspector made the observation that several completed ASME moment restraint record packages were being maintained in a nonfireproof cabinet in the ASME safeguards building QC trailer. The NRC SRT inspector also stated that there was some confusion at the CPSES site as to when a working document becomes a record. Section 1.4 of ANSI N45.2.9, 11th draft-Revision 0, "Requirements for Collection, Storage and Maintenance of Quality Assurance Records," to which the licensee was committed, states that a document is considered a QA record when the document has been completed. The NRC inspector determined from discussions with cognizant licensee personnel that they had not considered the moment restraint packages observed by the NRC SRT inspector to be complete, because the final walkdowns of vendor certified drawings in the packages had not been completed. If the documents had been destroyed, the burden would have been on the licensee to perform rework and reinspection as necessary to reestablish the required records. To eliminate the confusion and to provide protection to the documents being worked, the licensee had implemented procedures that required the in-process packages to be checked out on a shift basis and returned to the interim records vault at the end of each shift. Procedure CP-CPM 7.1G, Appendix G, Revision 1, "Piping Supports," also required that hanger packages which were complete pending final review requiring additional as-built or vendor certified drawings, shall be maintained by the paper flow group in fire resistant cabinets with a 1-hour underwriter's rating in the interim records vault. The NRC inspector will continue to monitor activities related to protection of records as a part of the routine inspection program.

c. Required Vendor Audits not Performed

Details of this item were discussed in Section B.7.b, page 15, of the SRT report dated July 13, 1984.

NRC Region IV followup findings for this item were reported in NRC Inspection Report 445/84-32; 446/84-11.

During the tours, the NRC inspector observed housekeeping practices, preventive maintenance on installed equipment, ongoing construction work, and discussed various subjects with personnel engaged in work activities.

No violations or deviations were identified.

9. Exit Interviews

The NRC inspectors met with members of the TUEC staff (denoted in paragraph 1) at various times during the course of the inspection. The scope and findings of the inspection were discussed. The licensee acknowledged the findings.