

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION IV

RO Inspection Report Nos. 50-445/74-1 and 50-446/74-1

Applicant: Texas Utilities Generating Company
1506 Commerce Street
Dallas, Texas 75201

Docket No. 50-445 and
Docket No. 446

Facility: Comanche Peak Steam Electric Station

License No. None

Location: Somervell County, Texas

Category A

Type of Licensee: W, PWR, 1161 MW(e)

Type of Inspection: Special, QA Manual Review

Dates of Inspection: March 13-14, 1974

Dates of Previous Inspection: December 3-6, 1973

Principal Inspector: R F Warnick
R. F. Warnick, Reactor Inspector

3/18/74
Date

Reviewed By: G L Madsen
G. L. Madsen, Chief, Reactor Construction and
Operations Branch

3/18/74
Date

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SUMMARY OF FINDINGS

I. Enforcement Action

None

II. Licensee Action on Previously Identified Enforcement Matters

The CPSES Quality Assurance Plan has been revised and issued. Most of the previous concerns have been resolved; however, certain items still remain open. (DETAILS, par. 3)

III. New Unresolved Items

None

IV. Status of Previously Reported Unresolved Items

None outstanding.

V. Design Changes

None

VI. Unusual Occurrences

None

VII. Other Significant Findings

None

VIII. Management Interview

On March 14, 1974, a management meeting was held in the Denver Region IV office of the Directorate of Regulatory Operations to discuss the results of the inspection of the CPSES QA Plan. The following individuals were in attendance:

Texas Utilities Services, Inc. (TUSI)
H. C. Schmidt, Manager, Quality Assurance
R. W. Caudle, Project Manager, Nuclear Plants
R. H. Hickman, Project Engineer, CPSES
A. H. Boren, Quality Assurance Engineer

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Atomic Energy Commission (AEC)

E. M. Howard, Director, Region IV

G. L. Madsen, Chief, Reactor Construction and Operations Branch

R. F. Warnick, Reactor Inspector

A. M. Garland, Reactor Engineer, Directorate of Licensing

The inspector's findings, contained in paragraph 3 of the DETAILS section of this report were presented and discussed. The corrective action commitments made by TUSI personnel are also documented in the DETAILS section.

The meeting concluded with a general discussion of quality assurance and some of the more obvious pitfalls that can occur during construction.

(continued)

DETAILS

A. Persons Contacted

Texas Utilities Services, Inc.
H. C. Schmidt, Manager, Quality Assurance
R. W. Caudle, Project Manager, Nuclear Plants
R. H. Hickman, Project Engineer, CPSES
A. H. Boren, Quality Assurance Engineer

B. Purpose of Inspection

The CPSES Quality Assurance Plan was examined and reviewed to determine if the areas of concern, which were identified in the previous inspection report 1/, were resolved.

C. Previously Identified Violations

During the previous inspection deficiencies in the TUGCO QA program were identified. Since that time the Corporate Quality Assurance Program and the CPSES Quality Assurance Plan have both been reviewed and revised. The revised QA Plan was issued on February 8, 1974. It has been reviewed by RO:IV and most of the previous concerns have been resolved; however, certain items still remain open. For each of the previously identified violations of Appendix B, the QA requirement, the previous finding, and the current finding are described below. (The numbers correspond to those used in the letter to Perry G. Brittain from E. Morris Howard, dated January 7, 1974, advising TUGCO of the violations.)

(continued)

1/ RO Inspection Report Nos. 50-445/73-2 and 50-446/73-2.

- 1.a. Requirement: Criterion I of Appendix B to 10 CFR 50 requires that the authority and duties of persons and organizations performing quality assurance functions be clearly established and delineated in writing.

Previous Finding: Neither the Corporate Quality Assurance Program nor the CPSES Quality Assurance Plan clearly establishes the authority and duties of the TUSI staff QA engineers or the TUSI engineers working under the CPSES Project Engineer. Both groups of engineers are or have been engaged in the review of design and procurement documents.

Current Finding: The authority and duties of the staff QA engineers and staff project engineers are described in 1.5.5.1 and 1.5.7.1 through 1.5.7.5. This item is closed.

- 1.b. Requirement: Criterion II of Appendix B to 10 CFR 50 requires that activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied.

Previous Finding: Neither the Corporate Quality Assurance Program nor the CPSES Quality Assurance Plan address this requirement.

Current Finding: The requirement that activities affecting quality shall be accomplished under suitable controlled conditions is addressed in 2.4.5.1 (1F). This item is closed.

- 1.c. Requirement: Criterion III of Appendix B to 10 CFR 50 specifies the requirements for design control. In addition, AEC guidance pertaining to Criterion III, given in paragraph 2.1 of ANSI N45.2.11 (draft), states in part:

- (1) "A quality assurance program for design shall be established and documented to comply with the requirements of this standard."
- (2) "Program documents shall identify the items and services and the specific activities to which this standard is applied."

(continued)

Additional requirements for the quality assurance program covering design are described in paragraphs 3.2., 4.1., 4.2., 4.3., 4.4., and 4.5. of ANSI N45.2.11. (draft).

Previous Finding: Neither the Corporate Quality Assurance Program nor the CPSES Quality Assurance Plan clearly requires compliance with ANSI N45.2.11., nor do they clearly identify the items and services to which ANSI N45.2.11. is applicable, nor do they describe the quality assurance program for design as required by paragraphs 3.2., 4.1., 4.2., 4.3., 4.4., and 4.5. of ANSI N45.2.11.

Current Finding: The manual makes it clear that TJSI will not perform design or design reviews. They will only perform secondary reviews to assure contractor compliance with ANSI standards and Appendix B. This part is closed.

TJSI reviews will cover the subjects described in paragraph 3.2 of ANSI N45.2.11. (Paragraphs 4.1, 4.2, 4.3, 4.4 and 4.5 of ANSI N45.2.11 will be covered by the contractors who perform design and design reviews.) This part is closed.

The manual now imposes the requirements of ANSI N45.2 and "the applicable provisions" of the other ANSI Gray Book requirements, including N45.2.11.

TJSI agreed to revise the wording to make it clear that all activities affecting quality will be in compliance with the ANSI standards. This part of the item remains open.

- 1.d. Requirement: Criterion III of Appendix B to 10 CFR 50 specifies the requirements for design control. Additional AEC guidance pertaining to Criterion III, given in ANSI N45.2.11. (draft), paragraph 2.2., states in part: "Procedures shall be employed to assure that design activities are carried out in a planned, controlled, orderly and correct manner". Paragraph 2.2. then lists 17 categories of procedures that need to be considered.

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Previous Finding: The CPSES Quality Assurance Plan does not contain procedures which cover the following:

- (1) Management review of status and adequacy of program.
- (2) Necessary training of personnel (concerning design).
- (3) Preparation of design documents.
- (4) Specifying quality levels, acceptance standards, and record requirements.
- (5) Making experience reports available to cognizant design personnel.

Current Finding:

- (1) Management's review of the status and adequacy of the QA program is covered in 1.6.2. This item is closed.
- (2) Indoctrination and training is addressed in 1.8.4.3. This item is closed.
- (3) TUSI does not prepare design documents. Additional instructions have been added to the manual in 2.3, Appendices A and B, and 2.4, Appendices A and B, to guide the secondary design review work. This item is closed.
- (4) Record requirements have been added to 2.3 and 2.4. This item is closed.
- (5) Experience reports will be transmitted to the Project Manager, Project Engineer, CPSES Project Group, and V. P. Design and Construction per 2.1.5.4. This item is closed.

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- 1.e. Requirement: Criterion IV requires measures to be established to control procurement documents. AEC guidance, contained in paragraph 5. of ANSI N45.2., requires that changes in procurement documents be subject to the same degree of control as was utilized in the preparation of the original document.

Previous Finding: Procedure 2.4., "Procurement Administration", of the CPSES Quality Assurance Plan does not address changes in procurement documents.

Current Finding: Changes to procurement documents are covered in the last paragraph of 2.4.5.1. This item is closed.

- 1.f. Requirement: Criterion IV states that procurement documents shall require contractors or subcontractors to provide a quality assurance program which is consistent with Appendix B. AEC guidance contained in paragraph 5. of ANSI N45.2. requires that procurement documents include provisions, as applicable, for supplier QA program, basic technical requirements, source inspection and audit, documentation requirements, and lower tier procurement.

Previous Finding: Procedure 2.4., "Procurement Administration", does not include specific instructions to inform the responsible reviewing engineer how or by what guidelines he is to determine the adequacy of the five basic provisions of ANSI N45.2., paragraph 5, which are contained in paragraph 5.1. of Procedure 2.4.

Current Finding: The five basic provisions of ANSI N45.2, paragraph 5, are covered in 2.4.5.1. This item is closed.

- 1.g. Requirement: Criterion V of Appendix B to 10 CFR 50 states: "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished".

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Previous Finding: Although paragraph 1.2.(v) of the Corporate Quality Assurance Program says that TUSI has established measures to require compliance with Criterion V, the CPSES Quality Assurance Plan does not contain a procedure which addresses or implements this requirement.

There was no procedure in the CPSES Quality Assurance Plan to give guidance to those conducting QA reviews of design or procurement documents. There were no written instructions to give guidance to those conducting management reviews of the quality assurance program.

Current Finding: Additional instructions have been added to the manual to take care of the inspector's concerns. They are Procedure 2.3, Appendix B, drawing Review Guide; Procedure 2.4, Appendix A, Specification Review Guide; and Procedure 2.4, Appendix B, Procurement Document QA Review Guide. The management review procedure is in 1.6.2. This item is closed.

1. (h.)

Requirement: Criterion VI of Appendix B to 10 CFR 50 requires in part that document control measures shall assure that documents, including changes, are distributed to and used at the location where the prescribed activity is performed.

Previous Finding: Although paragraph 1.2.(VI) of the Corporate Quality Assurance Program indicates that measures have been established to assure that documents are actually utilized at the locations where the quality related activities are being performed, the CPSES Quality Assurance Plan does not contain a procedure which addresses or implements this requirement.

Current Finding: Procedure 2.1.5. provides for the distribution of incoming documents and drawings, etc. TUSI agreed to revise procedure 2.1, "Correspondence, Drawing, Document, and File Control", to describe the handling of quality assurance documents such as the CPSES Quality Assurance Plan. This item remains open.

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1/i.

Requirement: Criterion VII of Appendix B to 10 CFR 50 states in part: "Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement document. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, ..." and that "The effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designee at intervals consistent with the importance, complexity, and quantity of the product or services."

Additional AEC guidance contained in ANSI N45.2.13. (draft), paragraph 2.2., states in part: "Objective evidence shall be available for audit which substantiates a supplier's approval as an acceptable source of equipment, materials or services. Procurement source evaluation and selection measures shall provide for:

- (1) Identification of organizations responsible for determining supplier capability.
- (2) Establishing criteria for placement on an approved supplier source list or lists.
- (3) Identification of methods to be utilized in evaluation of supplier sources.
- (4) Establishment of a supplier source list or lists.
- (5) Identification of documentation to provide objective evidence of supplier source capability and qualifications.
- (6) Establishment of methods for updating source supplier list or lists."

Previous Finding: The CPSES Quality Assurance Plan does not contain an implementing procedure which addresses the above requirements.

Current Finding: TUSI has agreed to revise paragraph 2.4.5.2. of procedure 2.4 to make it clear that for TUSI procurement, vendor qualification for the bidders list will be judged on the basis of the criteria listed in 2.4.5.6. All other concerns have been covered in 2.4. This item remains open.

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- 1.j. Requirement: Criterion XVII of Appendix B to 10 CRR 50 requires that records be maintained to furnish evidence of activities affecting quality and that requirements concerning record retention be established.

Additional AEC guidance contained in ANSI N45.2.9. (draft), paragraphs 5.5. and 5.6., states in part: "Provisions shall be established to preclude the entry of unauthorized personnel into the storage area and to guard against larceny and vandalism. Record storage facilities shall be so constructed and located as to protect contents from possible destruction by causes such as fire, flooding, tornadoes, insects, rodents, and from possible deterioration by a combination of extreme variations in temperature and humidity conditions".

Previous Finding: Although procedure 2.11., "Microfilm Processing", provides written instruction for records after they are microfilmed, there is no comparable written instruction (addressing the above requirements) for records that have not been microfilmed.

Current Finding: Procedure 2.10 has been provided to assure QA records are controlled and safeguarded. The microfilm records are covered by 2.11. This item is closed.

- 1.k. Requirement: The additional AEC guidance pertaining to Criterion XVIII, "Audits", contained in ANSI N45.2.12 (draft), paragraphs 2.2., 2.3., 2.4., and 5.3., states in part:

- (1) "Management shall establish the audit personnel qualifications appropriate to the auditing of the quality assurance programs."
- (2) "Auditing personnel shall have, or be given, appropriate training or orientation to assure their competence for performing required audits."
- (3) "Auditors shall maintain their proficiency"
- (4) "Records shall be maintained for all personnel actively performing audits as well as those who have previously performed audits within the same project or activity."

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In addition, paragraph 5.7. of ANSI N45.2.9. (draft) states in part: "An audit system shall be established to assure that the quality assurance records storage system is effective". And that periodic audits shall be performed "to assure that the facilities are in good condition and that the temperature/humidity controls and protective devices are functioning properly".

Previous Finding: Although TUSI has a viable audit program and two audits have already been conducted, the implementing procedure in the CPSES Quality Assurance Plan (4.0.) does not address the above requirements.

Current Finding: Auditor qualifications, training, maintenance of proficiency, and records are covered in 4.1.2. and 1.8.4.2. This item is closed.

2

Requirement: Criterion II requires the quality assurance program to be established at the earliest practicable time, consistent with the schedule for accomplishing the activities.

Previous Findings:

- a. The procedures contained in the CPSES Quality Assurance Plan were still in draft form.
- b. None of the procedures in the Plan carried a signature of approval.

Current Findings: The procedures are in final form and have been approved. These two items are closed.

Previous Findings:

- c. Most of the Plan manuals in the offices contained only two or three procedures although five procedures were reported to be fully implemented.
- d. Documentation pertaining to the formal implementation of the procedures was not available for inspection.
- e. The "Licensing" and "Record Retention" procedures had only been partially implemented.
- f. The "Design Change Control", "Quality Assurance Deviation Administration", and "Interface Control" procedures had not been implemented.

(continued)

Current Findings: Corrective actions have been taken; however, implementation will have to be examined during a subsequent inspection. These items remain open.

Previous Finding:

- g. Other quality related instructions or procedures were not provided, or were inadequate.

Current Findings: TUSI agreed to the following actions to resolve the inspector's remaining concerns:

A review will be made to assure that all procedures and parts of procedures pertaining to the CPSES Quality Assurance Plan, such as the minimum job qualifications of TUSI personnel performing quality related work, are included or referenced in the QA Plan.

Section 1.8, "Indoctrination and Training of Personnel", will be reviewed and revised to provide the minimum training to be given TUSI personnel.

Procedures in Sections 2.10 and 2.1 will be reviewed and revised to provide a more detailed file control procedure.

TUSI's involvement in procurement will be clarified to eliminate the inconsistency between Table 1.7-1 and other parts of the CPSES Quality Assurance Plan.

The procedures will be reviewed and times will be specified where the action frequency is presently specified as "periodically".

This item remains open.

3.

Requirement: Criterion II requires the quality assurance program to be documented by written policies, procedures, or instructions and carried out in accordance with those policies, procedures, or instructions.

(continued)

Previous Finding: The Quality Surveillance Committee, Design was not functioning as described in paragraphs 17.1.1.3. of the PSAR and 2.3.2. of the Corporate Quality Assurance Program, in that:

- a. No committee meetings had been held.
- b. The committee had not reviewed the QA/QC programs of the architect-engineer, the NSSS supplier, or the safe shutdown impoundment dam designer-constructor.

Current Finding: Corrective actions have been taken; however, implementation will have to be examined during a subsequent inspection. This item remains open.