

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

82 MAY 11 A9:38

In the Matter of)
)
TEXAS UTILITIES GENERATING) Docket Nos. 50-445 and
COMPANY, et al.) 50-446
)
(Comanche Peak Steam Electric) (Application for
Station, Units 1 and 2)) Operating Licenses)

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

AFFIDAVIT OF ANTONIO VEGA
REGARDING COMANCHE PEAK QA PROGRAM
SATISFACTION OF 10 C.F.R. PART 50,
APPENDIX B

I, Antonio Vega, being first duly sworn, do depose and state: I am employed by Texas Utilities Generating Company in the position of Supervisor, Quality Assurance Services. As such, I am familiar with the Quality Assurance ("QA") program for Comanche Peak Steam Electric Station, Units 1 and 2, and the manner in which it addresses the criteria of 10 C.F.R. Part 50, Appendix B. The purpose of this affidavit is to demonstrate that the QA program at Comanche Peak addresses and satisfies each of the criteria set forth in 10 C.F.R. Part 50, Appendix B. This affidavit also is intended to demonstrate that this program provides assurance that construction has been performed in compliance with regulatory requirements and applicable codes and standards. A statement of my educational and professional qualifications was received into evidence at the hearings in December 1981 (Tr. at 511) and is attached hereto as Attachment 1 for the convenience of the Board.

The QA program established for Comanche Peak is designed to provide assurance that construction will comply with regulatory requirements and applicable codes and standards, and that when construction is complete there will be assurance that the units will be operated as a safe and dependable source of electricity. To accomplish this goal, the QA program has been structured to address each of the 18 criteria of 10 C.F.R. Part 50, Appendix B, as well as the commitments contained in the Preliminary (PSAR) and Final Safety Analysis Reports (FSAR). Measures taken to satisfy the requirements of each of these criteria are described below.

A. Criterion I - Organization

Texas Utilities Generating Co. ("TUGCO"), as lead Applicant, retains ultimate responsibility for the proper construction of the facility, including the proper design, procurement, and installation of components. The overall QA program is a coordinated program involving principally Texas Utilities Services, Inc. ("TUSI"), the engineering service organization; Gibbs & Hill, the Architect-Engineer; Brown & Root, the Construction Manager/Constructor; and Westinghouse Electric Corporation, the nuclear steam supply system ("NSSS") supplier.

Westinghouse provides the QA program for the NSSS structures, systems and components; Brown & Root manages the QA program for ASME Code Section III, Div. 1 (ASME Code)

work and may perform other QA functions as requested by the TUGCO QA Manager; Gibbs & Hill provides the QA for engineering work and other activities within its scope; and TUGCO performs independent verification that TUSI, organizations described above and other contractors and vendors conduct their activities in compliance with applicable commitments and regulations. FSAR § 17.1.1 (The FSAR was received into evidence at the December 1981 hearings as Applicants' Exhibit 3, Tr. at 398).

B. Criterion II - QA Program

The CPSES Quality Assurance Plan and the FSAR are the primary documents by which effective control of all project quality-related activities is assured. The CPSES QA Plan addresses the provisions of 10 C.F.R. Part 50, Appendix B and applicable ANSI N45.2 series standards. Attachment 2 attached hereto is a copy of the CPSES QA Plan, and Attachment 3 is a matrix which shows 10 C.F.R. Part 50, Appendix B criteria and corresponding sections of the QA Plan. The Plan also incorporates the objectives of the ANSI standards and draft standards as presented in the NRC text "Guidance on Quality Assurance Requirements During Design and Procurement Phase of Nuclear Plants," dated June 7, 1973 and subsequent comments by the NRC Staff.

To implement the QA program, procedures are established which define the organizations within which the programs are implemented and delineate the authority and responsibility of the persons and organizations performing design, engineering, procurement, and construction activities. These procedures provide a system within each discipline to assure that activities conform to the license commitments, meet stipulations of applicable codes and standards, fulfill applicable regulatory agency requirements, and implement the provisions of the CPSES QA program.

Further, an audit program assures that prime contractors, sub-contractors, and vendors who provide equipment, material, and services under the control of the QA program implement adequate QA programs. In addition, auditing is conducted within TUGCO/TUSI to verify the implementation of the CPSES QA program. This auditing program evaluates the effectiveness of the program; determines whether the program; requirements, methods, and procedures; and verifies implementation of corrective action. FSAR § 17.1.2.

C. Criterion III - Design Control

The CPSES QA program provides for multi-level design control. Gibbs & Hill, Westinghouse, and TUSI each have levels of control within their respective organizations. The verification of their engineering design control measures is performed by TUGCO through review or audit.

The CPSES QA program requires that the prime contractors meet applicable NRC Regulatory Guide requirements for all safety-related activities. The CPSES QA program requires verification by design review, audit and surveillance that design bases as specified in the PSAR and FSAR, and applicable NRC Regulatory Guide requirements have been met. The surveillance and audit functions are conducted in accordance with written procedures. Audits by TUGCO assure that prime contractors' design control measures include a clear definition of interfaces, review and approval of initial design, and revisions, and that independent qualified personnel perform design reviews. FSAR § 17.1.3.

D. Criterion IV - Procurement Document Control

The CPSES QA program requires the control of procurement documentation to assure compliance with applicable regulatory requirements, design bases, and other appropriate requirements, such as industry codes and standards. Safety-related procurement documents and specifications require that vendors submit written quality assurance programs consistent with the importance and complexity of the material, equipment, or service procured. Such quality assurance programs are evaluated and appropriate actions taken to assure that they meet the pertinent provisions of 10 C.F.R. Part 50, Appendix B. In addition, planned, periodic, and documented evaluations and audits are performed as required

by TUGCO to provide assurance that the procurement activities are carried out, in accordance with approved procedures.

FSAR § 17.1.4.

E. Criterion V - Instructions, Procedures, and Drawings

Appropriate requirements have been established by the CPSES QA program to assure that quality-related activities are prescribed by documented instructions, procedures, or drawings; accomplished in accordance with such documents; and that approved acceptance criteria are met. The various participating organizations are responsible for implementing these activities, subject to TUGCO audit. The CPSES QA program requires that measures be established by prime contractors to assure that approved changes are promptly reflected in instructions, procedures, and drawings.

Further, the CPSES QA program requires establishment of appropriate inspection, test, or hold points from raw material through fabrication, processing, and assembly of parts, components, and subsystems. In its review activities, TUGCO QA assures that instructions, procedures, and drawings contain appropriate quantitative (such as dimensions, tolerances, and operating limits) or qualitative (such as workmanship samples) acceptance criteria for determining that important activities have been satisfactorily accomplished. FSAR § 17.1.5.

F. Criterion VI - Document Control

The CPSES QA program assures that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel. It requires a system to control the issuance of design and procurement documentation (i.e., specifications, drawings, instructions, procedures, reports and changes thereto) for all safety-related equipment. It further requires that manufacturing and construction documents and records required for traceability, evidence of quality, and substantiation of the "as built" configuration be controlled to assure adequate safeguards and retrievability. Procedures identify those individuals or groups responsible for reviewing, approving and issuing documents and revisions thereto.

The effectiveness of document control methods is evaluated by TUGCO through review and audit. FSAR § 17.1.6.

G. Criterion VII - Control of Purchased Material, Equipment, and Services

Control of purchased material, equipment, and services is required by the CPSES QA program.

Potential vendors are evaluated in accordance with established procedures prior to placing them on the approved vendors list. The evaluation involves the review of historical data on vendor performance and capability, the review of the vendor's quality assurance program, and/or the results of shop surveys, inspections, and audits. Vendors

eligible to supply material, equipment, and services for Q-listed (quality controlled) items are selected from the approved vendors list. This list is maintained by TUGCO QA in accordance with established procedures.

The CPSES QA program requires that suppliers provide a quality verification package. Documented, objective evidence (i.e., certifications, chemical and physical analyses, inspection reports, test results, personnel and process qualification results, code stampings, and non-destructive test reports) is required for evaluation by TUGCO/TUSI or the prime contractors to assure conformance to design requirements, drawings, specifications, codes, standards, regulatory requirements, and other applicable criteria. FSAR § 17.1.7.

H. Criterion VIII - Identification and Control of Materials, Parts and Components

The CPSES QA program requires continuous and accurate identification and control of materials, parts, and components to prevent inadvertent use.

Contractors and vendors are required to utilize procedures which establish and document a system for physically identifying Q-material and equipment. Upon receipt of such material and equipment on site, QC inspections are performed and documented. Site procedures and instructions for the storage and handling of Q-material and equipment require

nonconforming items to be tagged with the appropriate status tag (i.e., "hold" or "reject") and controlled to prevent inadvertent use. Provisions are made for temporary waiver of the "hold" status under certain conditions. Procedures establish required identification, traceability, and controls, including QA approval for issuance of such a temporary waiver. After such approval, any further processing is on a risk removal basis while the temporary waiver is in effect. This system provides assurance that only acceptable items are used for safety-related functions.

The CPSES QA program requires that prime contractors and subcontractors establish specific measures to assure compliance with approved procedures for identification and control of materials, parts, and components. TUGCO verifies conformance to those procedures by (1) review and approval of prime contractors' quality assurance programs, (2) surveillance of selected manufacturing, fabrication, construction, and installation activities by quality assurance personnel, and (3) auditing prime contractors and subcontractors on a selected basis for satisfactory performance of committed quality actions, and (4) by review of documentary evidence of audits performed by prime contractors.

FSAR § 17.1.8.

I. Criterion IX - Control of Special Processes

The CPSES QA program requires prime contractors to prepare written procedures and controls to assure that special processes, including welding, heat treating, casting, coating applications, nondestructive testing, and concrete batching are accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, and specifications. These procedures describe as appropriate the operations to be performed and their sequence, the characteristics involved and their limits, process controls, measuring and testing equipment utilized, and documentation required.

Written procedures also are required to cover training, examination, qualification, and certification of personnel as well as the maintenance of required personnel records. Compliance with these procedures by prime contractors, subcontractors, and vendors is verified through review, audit and/or inspection by TUGCO. FSAR § 17.1.9.

J. Criterion X - Inspection

The CPSES QA program requires inspections of activities affecting quality. The organization having the responsibility for providing services, structures, systems, components, and

materials has the primary responsibility for inspecting such items and activities. TUGCO/TUSI performs reviews, surveillances or audits of the inspection procedures utilized by these organizations.

Inspections are performed by independent, trained, and qualified individuals not responsible for the activity being inspected. TUGCO verifies by review, audit, or inspection that contractors' inspections are being performed and documented in conformance with approved procedures. FSAR § 17.1.10.

K. Criterion XI - Test Control

The CPSES QA program requires that appropriate tests be performed and documented at specific stages of manufacturing, fabrication, and construction. Testing is conducted in accordance with written procedures with well defined acceptance limits. The CPSES test program covers safety-related activities such as prototype, qualification, production, in process, performance, and hydrostatic testing. Compliance with the testing program is verified by TUGCO through review, inspection, and audit. FSAR § 17.1.11.

L. Criterion XII - Control of Measuring
and Test Equipment

The CPSES QA program requires that organizations using measuring and test equipment have written procedures to assure that only properly calibrated equipment is used. The program requires that the standards used for accuracy verification be traceable to the U.S. Bureau of Standards or other appropriate sources. A calibration system has been established, records of calibrations are maintained and equipment is properly marked with the date and the due date and of the next calibration.

TUGCO performs reviews, audits, and inspections of the various participants to ensure that approved calibration control procedures are being implemented. FSAR § 17.1.12.

M. Criterion XIII - Handling, Storage, and Shipping

The CPSES QA program requires the establishment of procedures for cleaning, handling, storage, shipping and preservation of materials and equipment to prevent damage or deterioration. TUGCO verifies through review, inspections, and audit that these procedures are being properly implemented. When necessary, these procedures may require special environmental facilities such as inert gas, humidity controlled, or temperature controlled storage areas. FSAR § 17.1.13.

N. Criterion XIV - Inspection,
Test, and Operating Status

The CPSES QA program requires procedures to identify the inspection, test, and operating status of safety-related structures, systems, and components.

The inspection and test status of items are maintained through the use of status indicators such as physical location, tags, markings, shop travelers, stamps, or inspection records. This assures that only items that have received the required inspections and tests are used. The method for controlling status indicators, including the authority for application and removal of tags, markings, labels, or stamps, is established in approved procedures. TUGCO performs reviews, inspections and audits to assure implementation of these procedures. FSAR § 17.1.14.

O. Criterion XV - Nonconforming
Materials, Parts, or Components

The CPSES QA program requires the identification, documentation, segregation, and disposition of nonconforming material, parts, or components. Procedures require evaluation and documented disposition. Procedures also control further processing, fabrication, delivery, or installation of items for which disposition is pending. Reports documenting actions taken on nonconforming items are subject to TUGCO evaluation.

The CPSES QA program requires measures to assure that departures from design specifications and drawing requirements that are dispositioned "use as is" and "repair" are reported to affected organizations. TUGCO performs reviews, inspections, and audits to assure compliance with this requirement. FSAR § 17.1.15.

P. Criterion XVI - Corrective Action

The CPSES QA program requires that conditions adverse to quality are promptly identified, reported, and corrected. Contractors, subcontractors, and vendors are responsible for performing corrective actions within their own areas of activity. In the case of significant conditions adverse to quality, which are reportable to NRC under the provisions of 10 C.F.R Part 50.55(e), the cause of the condition is determined and corrective action implemented. Corrective action procedures require thorough investigation and documentation of significant conditions adverse to quality. The cause and corrective action is reported in writing to the appropriate levels of management. TUGCO and the prime contractor responsible for the original purchase specification review corrective actions which have been taken. FSAR § 17.1.16.

Q. Criterion XVII - Quality Assurance Records

The CPSES QA program requires a quality records system which provides documented evidence of the performance of activities affecting quality. This record system includes:

1. Data documenting quality assurance programs and plans, design data and studies, design review reports, specifications, procurement documents, procedures, inspection and test reports, material certifications, personnel certification and test reports, audit reports, reports of nonconformances and corrective actions, as-built drawings, operating logs, calibration records, maintenance data, and failure and incident reports.
2. Inspection and test records that, as a minimum, identify the date of the inspection or test, the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any nonconformances noted.
3. Protection against deterioration and damage.
4. Criteria for determining the classification of the record as well as the length of the retention period.
5. A method of identification and indexing of records for ease of retrievability.
6. Definition of responsibilities for record keeping during design, fabrication, construction, preoperational testing and commercial operation.
7. A method of transfer of records between organizations.

TUGCO verifies conformance to the record system requirements by reviewing contractors' methods for record keeping, by auditing contractors' record systems, and by selective review of quality records for completeness and accuracy.

FSAR § 17.1.17.

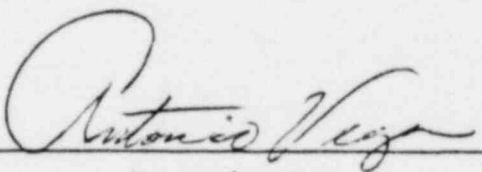
R. Criterion XVIII - Audits

The CPSES QA program requires that planned and periodic audits be performed to verify compliance with all aspects of the QA program and to determine its effectiveness. TUGCO performs such audits on Westinghouse, Gibbs & Hill, Brown & Root, TUSI, and others as necessary to provide an objective evaluation of the effectiveness of their programs; to determine that their programs are in compliance with established requirements, and to verify implementation of corrective actions. The TUGCO audits, both internal and external, are conducted primarily by members of the TUGCO QA staff. Consultants are utilized by TUGCO on audits as required.

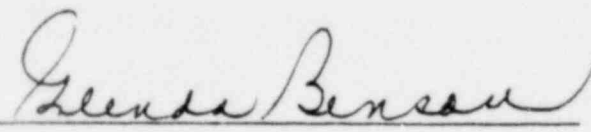
Audits performed by TUGCO QA as part of the CPSES QA program are conducted in accordance with established practices and procedures. An audit planning document defines the organizations and activities to be audited and the frequency of the audits. The audit team has sufficient expertise in the area being audited but has no direct responsibilities in the area. Auditors use checklists identifying those activities which will be examined in each audit.

In performing an audit, characteristics of quality activities are examined. An audit report is prepared that notes the areas examined and any deficiencies found. That report is sent to management responsible for the area audited for review and corrective action of deficiencies. Such corrective action taken as a result of the audit must be described in a response. Finally, reauditing of deficient areas is performed as necessary to verify implementation of required corrective actions.

Copies of audit reports, evaluation responses, and reports of follow-up and close-out actions are forwarded to the Vice President, Nuclear by the Manager, Quality Assurance.


Antonio Vega

Subscribed to and sworn before
me this 7th day of May 1982.


Notary Public

GLEND A BENSON, Notary Public
in and for Dallas County, Texas
My Commission Expires 2-17-85

ANTONIO VEGA, P.E.STATEMENT OF EDUCATIONAL
AND PROFESSIONAL QUALIFICATIONS

POSITION: Quality Assurance Services Supervisor

FORMAL EDUCATION: 1961-1967, B.S. Electrical Engineering,
University of Texas

EXPERIENCE:

1976 - Present Texas Utilities Generating Company (TUGCO),
Dallas, Texas, Quality Assurance Services
Supervisor, Quality Assurance Division.
Activities include program and procedure
development, and independent compliance
evaluation via surveillance and audit of
safety related activities performed by TUGCO,
Texas Utilities Services Incorporated (TUSI),
the Architect Engineer, the Constructor and
safety related equipment suppliers.

1973-1976 Texas Utilities Services Incorporated, Dallas,
Texas, Quality Assurance Senior Engineer,
Quality Assurance Division. Activities
included involvement in developing the QA
program, procedures, instructions, and conducting
audits and inspections on TUSI, the Architect
Engineer, the Constructor, and safety related
equipment suppliers.

1970-1973 Dallas Power & Light Company, Dallas, Texas,
Power Plant Design Engineer, Power Plant Division,
Engineering Department. Activities included
conceptual and detail design of power plant
power and distribution systems, protection
systems, control systems and communication
systems. Performed related construction
inspections.

1967-1970 Dallas Power & Light Company, Dallas, Texas,
System Protection and Controls Engineer, System
Protection Section, Substation and Transmission
Division, Engineering Department. Activities
include conceptual and detail design of sub-
station, transmission, and switchyard facilities,
including power systems, protection systems,
telemetering and control systems and communication
systems. Performed related construction inspections.