

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report Nos. 50-445/92-23
50-446/92-23

Operating License No. NPF-87

Construction Permit No. CPPR-127

Licensee: TU Electric
Skyway Tower
400 North Olive Street
Dallas, Texas 75201

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

Inspection At: CPSES, Glen Rose, Texas

Inspection Conducted: June 22-25, 1992

Inspector: W. M. McNeill, Reactor Inspector, Materials and Quality
Programs Section, Division of Reactor Safety

Approved:

Amuel Adams
I Barnes, Chief, Materials and Quality Programs
Section, Division of Reactor Safety

8/5/92
Date

Inspection Summary

Inspection Conducted June 22-25, 1992 (Report 50-445/92-23)

Areas Inspected: No inspection of CPSES Unit 1 was performed.

Results: Not applicable

Inspection Conducted June 22-25, 1992 (Report 50-446/92-23)

Areas Inspected: Routine, unannounced inspection of quality assurance
administration and control of measuring and test equipment.

Results: Within the two areas inspected, one violation was identified
(paragraph 3.2) pertaining to the failure to include in the measuring and test
equipment program load cells that were used for preoperational testing. The
measuring and test equipment program was found to be well defined and, with
the exception of the noted violation, was satisfactorily implemented. The

review of quality assurance administration indicated that such activities were well defined and effectively implemented. One strength noted by the inspector was the establishment of an "ad hoc" group to provide an integrated overview assessment of hot functional testing.

DETAILS

1. PERSONS CONTACTED

TU ELECTRIC

J. Ayers, Operations Quality Assurance
J. Bezfamily, Startup Test Engineer
*R. Braddy, Project Engineering Manager
*L. Bradshaw, Stipulation Manager Secretary
*H. Bruner, Senior Vice President
J. Buechler, Metrology Technician
R. Burdick, Startup Test Engineer
*W. Cahill, Group Vice President
J. Collins, Quality Specialist
*R. Fay, Senior Quality Control Supervisor Support
R. Gamble, Startup Test Engineer
W. Gilchrist, Metrology Technician
R. Green, Metrology Technician
*J. Greene, Licensing Engineer
*S. Harrison, Manager, Project Overview
*T. Heatherly, Licensing Engineer
*T. Hope, Unit 2 Licensing Manager
N. Hottel, Quality Testing Supervisor
J. Jackson, Startup Test Engineer
J. Lozes, Evaluation Report Coordinator
K. Luper, Startup Test Engineer
*F. Martin, Measuring & Test Equipment Supervisor
*D. Pendleton, Regulatory Services Manager
J. Prevo, Startup Test Engineer
*C. Rau, Unit 2 Project Manager
D. Schmidt, Quality Completion Supervisor
*W. Sly, Instrument & Control Manager
*C. Terry, Chief Engineer
S. Trickovic, Startup Test Engineer
*L. Walker, Licensing Engineer
*R. Walker, Manager of Regulatory Affairs
*J. Wren, Construction Quality Assurance Manager
*R. Whitley, Quality Assurance Advisor
J. World, Metrology Technician
*D. Zolfo, Project Management

CASE

*O. Thero, Consultant

NRC

*D. Graves, Unit 2 Senior Resident Inspector
R. Latta, Unit 2 Resident Inspector

The inspector also interviewed other employees during the inspection.

*Denotes those persons that attended the exit meeting on June 25, 1992.

2. QUALITY ASSURANCE PROGRAM-ADMINISTRATION (35740)

The objectives of this inspection were to ascertain whether the licensee has: defined the scope and applicability of the quality assurance program; established appropriate controls for preparation, review, and approval of quality assurance and quality control procedures; and established a mechanism for reviewing and evaluating the quality assurance program.

The quality assurance function at CPSES is the responsibility of the Nuclear Overview organization. Reporting to the Director of Nuclear Overview are the Managers of Construction Quality Control, Quality Assurance, Independent Safety Engineering Group, Operations Quality Control, and Plant Analysis. The Unit 2 preoperational testing quality activities have been defined in the Final Safety Analysis Report 17.1, and the CPSES Quality Assurance Manual. The Final Safety Analysis Report Chapter 17.A identified the scope of the program in terms of equipment applicability. A matrix has been developed of those procedures that are applicable for Unit 2, and for which review and approval is applicable. Specifically, preoperational testing quality activities are the responsibility of Construction Quality Assurance. The Construction Quality Assurance organization includes Quality Testing, Quality Engineering, Quality Completion, and a contracted organization, Project Quality Assurance Program. The preoperational and startup testing activities are the responsibilities of the Quality Testing group for the quality control function (in-line inspection, hold points, etc.) and the Quality Completion group for the quality assurance function (audits, surveillance, etc.).

An observed strength in the preoperational testing area was the formation by the Nuclear Overview organization of an "ad hoc" overview assessment group to address the quality assurance and quality control functions of hot functional testing. The group was made up of 12 Nuclear Overview personnel, working in teams of 3 per shift and reporting directly to the Director of Nuclear Overview. The personnel selected for this group were chosen because of their backgrounds in startup testing and operations. The overview assessment group was in the process of development of a charter at the time of this inspection. It is planned that the charter address specifically evaluations of: the impact of hot functional testing on Unit 1 operations, operations ability to operate two units, and the implementation of hot functional testing activities. These objectives are to be accomplished by direct observation of such activities as turnovers, briefings, and logs. The life span of this integrated overview assessment group will be about 2 months and, although, a daily briefing will be made, a final report will be issued when its activities are completed. In general, the inspector found the quality assurance program administration to be well defined.

3. QUALITY ASSURANCE PROGRAM-MEASURING AND TEST EQUIPMENT (35750)

The objectives of this inspection were to ascertain whether the licensee has developed and implemented a quality assurance program relating to the control of measuring and test equipment (M&TE) that is in conformance with regulatory requirements, commitments in the safety analysis report, and industry standards.

3.1 Program

The M&TE program was described in Procedure No. STA-608. The "Master Data Sheets" and the INC-series of calibration procedures identify the frequency of calibration, the standards to be used, and acceptance criteria (see Attachment). In general, manufacturer's recommendations were followed for frequency and acceptance criteria. Labels were required to identify equipment and the dates of the next calibration, as well as, the date of the last calibration. Records were required of the "as-found" and "as-left" data, and the identity of the metrology technician who performed the calibration. The records were also required to indicate the standards and procedures which had been used for calibration. Calibration standards were required to be traceable to the equipment on which they have been used and also to nationally recognized standards. Equipment was required to be calibrated with reference standards with an error less than or equal to the equipment being calibrated. A computerized recall system was in place to retrieve equipment when calibration was required. When a calibration failure occurred, an assessment was required to be documented on a "Deficient Measuring and Test Equipment Evaluation Report." The inspector noted during his review that Procedure No. CP-SAP-7B identified a calibration failure as one of several examples of a cause for issuance of a "Startup Deficiency Report" (SDR). In general, SDRs were not issued but a "Deficient Measuring and Test Equipment Evaluation Report." The inspector questioned the purpose of issuing an SDR for a problem that was already being assessed by a "Deficient Measuring and Test Equipment Evaluation Report." The licensee agreed to consider clarifying this subject during a revision of the procedure that has been initiated. The inspector found the M&TE program in place to be well defined.

3.2 Implementation

The inspector reviewed the implementation of the M&TE program by use of a sample of 23 pieces of equipment (see Attachment). The equipment sampled was either used in preoperational tests that were in-process at the time of the inspection, or in preoperational tests that had recently been completed. The inspector reviewed the "Master Data Sheets," calibration procedure, and latest calibration data of the sampled equipment. The calibrations of the reference standards used for the sample's calibrations were also reviewed by the inspector. In the review, the inspector verified that calibrations were performed as required by the program and the implementing calibration procedures. This review included verification of the unique identification and the proper status of equipment. The inspector verified by review of the "M&TE Issue Cards" associated with the sample that proper issue controls were

implemented. The inspector verified the qualification of the metrology technicians by review of training and certification records. The storage area of the M&TE was inspected. If any limitations were applied to the equipment, the inspector verified that the use in preoperational testing was indeed within the stated limitations. In the samples reviewed, there were four cases of calibration failures. The "Deficient Measuring & Test Equipment Evaluation Reports" associated with these failures were reviewed by the inspector (see Attachment). The recent quality assurance surveillance reports (QAS-92-030, -064, and -087) of M&TE activities were reviewed by the inspector. The inspector concluded, based on the above reviews, that the M&TE program was satisfactorily implemented with the exception noted below.

During review of the preoperational test packages the inspector identified that six load cells were in use which were not incorporated into the M&TE Program. Preoperational Test No. 2CP-PT-90-02, Transient Vibration Test during Operational Vibration Tests, identified in Table 9.4 that load cells TR-2-SI-01, 02, 03, 04T, 04B, and 05 had been used on April 12, 1992, which were calibrated by the vendor, Teledyne Engineering Services. The licensee subsequently determined that there were 40 such load cells on site which have been used for preoperational testing of Units 1 and 2. Procedure No. STA-608, Revision 15 with Procedure Change Notices 1 through 2, paragraph 6.3.3 requires that when a vendor is used for calibration of equipment, the calibration records be provided to the Metrology Laboratory for review and initiation of administrative controls such as equipment tagging. The inspector ascertained that the Metrology Laboratory did not have records of these load cells and other administrative controls such as tagging and review of records. The failure to submit the calibration records for Metrology Laboratory review and initiation of administrative controls is an apparent violation (446/9223-01). A TUE form, 92-5657, was initiated by the licensee after this inspection to have the load cells identified as part of the M&TE program and proper administrative controls accomplished as required by STA-608.

4. EXIT INTERVIEW

The inspector conducted an exit interview on June 25, 1992, with those personnel denoted in paragraph 1, during which the inspector summarized the findings. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspector during this inspection.

ATTACHMENT

DOCUMENTS REVIEWED

Chapter 17.1 of the Final Safety Analysis Report, Revision 85

CPSES Quality Assurance Manual, Revision 5

Unit 2 Procedure Applicability Matrix, Revision 6

PROCEDURES

STA-608, "Control of Measuring and Test Equipment," Revision 15 with Procedure Change Notices (PCNs) 1 through 2

TSP-207, "Evaluation of Out of Tolerance M&TE," Revision 0 with PCN 1

TRA-321, "Instrumentation and Controls Section Training Program," Revision 0

INC-6001, "Calibration of Keithley Model 197 Digital Multimeter," Revision 1

INC-6004, "Calibration of Fluke Model 8024A and 8024 Digital Multimeter," Revision 1

INC-6017, "Calibration of Fluke Model 87 Digital Multimeter," Revision 0

INC-6205, "Calibration of Fluke 50 Series Digital Thermometers," Revision 1

INC-6250, "Calibration of Heise Model CMM and CM Pressure Test Gauges," Revision 1

INC-6259, "Calibration of Perma-Cal Pressure Test Gauges," Revision 1

INC-6351, "Calibration of Bruel & Kjaer Model 2511 Vibration Meters with Model 4370 Accelerometers," Revision 1

INC-6356, "Calibration of IRD Mechanalysis Model 890 Vibration Analyzer," Revision 4

M&TE FILES

<u>Tag No.</u>	<u>Description</u>
TU-1200	Digital Multimeter
TU-1198	Digital Multimeter
TU-1156	Digital Multimeter
TU-1069	Digital Multimeter
IC-1862	Digital Multimeter
IC-1859	Digital Multimeter
IC-1834	Digital Multimeter
TU-3417	Pressure Test Gauge
TU-3416	Pressure Test Gauge
TU-3393	Pressure Test Gauge

TU-3376	Pressure Test Gauge
TU-3258	Pressure Test Gauge
IC-2807	Pressure Test Gauge
IC-2466	Pressure Test Gauge
IC-8983	Vibration Meter
IC-0294	Vibration Meter
IC-1035	AC Current Transformer
EM-0285	AC Current Transformer
TU-2071	Digital Thermometer
IC-5365	Digital Thermometer
IC-1521	Strobotac
TU-1174	AC/DC Clamp-on Ampmeter
IC-2156	Flowmeter

DEFICIENT MEASURING & TEST EQUIPMENT EVALUATION REPORTS

ER-91-1035
ER-91-1283
ER-92-1150
ER-92-2236

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bcc to DMB (IE01) - DRS

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*previously concurred