APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report Nos. 50-445/92-17
50-446/92-17

Operating License No. NPF-87

Construction Permit No. CPPR-127

Licensee: TU Electric
Skyway Tower
400 North Olive Street, L.B. 81
Dallas, Texas 75201

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

Inspection At: CPSES, Glen Rose, Texas

Inspectors: L. E. Ellershaw, Reactor Inspector, Materials and Quality Programs Section, Division of Reactor Safety

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

Approved: I. Barnes 6-10-92
I. Barnes, Chief, Materials and Quality Programs Section, Division of Reactor Safety — Date

Inspection Summary

Inspection Conducted May 18-21, 1992 (Report 50-445/92-17)

Areas Inspected: No inspection of Unit 1 was performed.

Results: Not applicable

Inspection Conducted May 18-21, 1992 (Report 50-446/92-17)

Areas Inspected: Routine, unannounced inspection of the corrective action program and preoperational testing quality assurance program criteria.

Results: The overall corrective action program was comprehensive, well defined, and effectively implemented. Organizationally and individually, there appeared to be a strong commitment to perform to the requirements of the written program. The licensee had established a TU Evaluation (TUE) Form Review Committee which met daily to review all new TUE forms to consider

impact on Unit 1, evaluate potentially reportable conditions, and to determine the existence of significant conditions adverse to quality. The inspectors considered this to be a strength and a further demonstration of managements' proactive attitude towards the corrective action program.

It was determined that a quality assurance program for preoperational testing had been established which, with the exception of the noncited violation identified in paragraph 3 regarding an apparently missed surveillance/hold point, was effectively being implemented. The quality assurance department's identification and resolution of early programmatic problems regarding the training and qualification of preoperational test personnel was considered a strength. A weakness was noted regarding an inconsistency in implementation of certain administrative tasks by startup test engineers (i.e., not placing startup deficiency reports [SDRs] in test packages, not logging SDRs in the index, not annotating the SDR at the applicable step in the test procedure, and not recording SDRs in the chronological test log).

DETAILS

1. PERSONS CONTACTED

TU ELECTRIC

*H. Bruner, Senior Vice President
J. Bezfamilny, Startup Test Engineer (STE)
*R. Daly, Manager, Startup
R. Gamble, STE
*E. Gully, Engineering/Licensing Interface Manager
*J. Greene, Licensing Engineer
H. Hairfield, STE
*S. Harrison, Manager, Unit 2 Project Overview
*N. Hottel, Quality Startup Supervisor
*T. Hope, Unit 2 Licensing Manager
K. Lupper, STE
*R. Martell, TU Overview Engineer
K. Matty, STE
D. Mayer, STE
R. Meador, Administrative Group Supervisor
G. Ondriska, Programs Test Group Supervisor
*S. Palmer, Stipulation Manager
*D. Pendleton, Unit 2 Regulatory Services Manager
*C. Rau, Unit 2 Project Manager
D. Schmidt, Quality Construction Supervisor
*R. Spence, Manager, Construction Quality Control Supervisor
*W. Whitley, Startup Quality Advisor
M. Williamson, STE
*J. Wren, Construction Quality Assurance Manager
G. Wysocki, STE

CASE

*O. Thero, Consultant

NRC

*R. Latta, Unit 2 Resident Inspector

The inspector also interviewed other employees during the inspection.

*Denotes those persons that attended the exit meeting on May 21, 1992.

2. CORRECTIVE ACTION PROGRAM (92720)

This inspection concluded the corrective action program inspection effort which was initially performed and documented in NRC Inspection Report 50-445/91-49; 50-446/91-49.

The licensee utilized Procedure 2PP-3.05, "Processing of TU Evaluation Forms (TUE) and Conditional Release Requests (CRRs)," Revision 2 through Procedure Change Notice (PCN) No. 03 dated April 16, 1992, to implement the corrective action program for Unit 2. The inspectors reviewed this document and found it to include the necessary requirements, responsibilities, and attributes to implement a comprehensive corrective action program. The procedure identified the TUE form as being the report used for documenting and controlling nonconforming, deficient, and programmatic/repetitive conditions, audit/surveillance findings, and the associated dispositions.

In order to control the tracking and statusing of documented nonconforming conditions, the licensee used a data base program named SCOPE, which the inspectors found to contain adequate information and to be current.

The inspectors noted that an audit of the corrective action program, (QAA-92-210) had been performed by quality assurance during March 23 through April 7, 1992. The inspectors considered the audit to have been comprehensive and in-depth. It documented the identification of a condition which resulted in the issuance of TUE Form 92-4851, which was closed on May 5, 1992. The condition dealt with the TUE Program Supervisor retaining a file of unissued TUE forms for which the condition details had been determined to be not deficient prior to the assignment of a TUE number. The supervisor had been retaining certain TUE forms which he thought might be of some benefit for future reference. The inspectors reviewed the condition and disposition, and verified that the stated corrective actions had been performed.

The inspectors attended a TUE Form Review Committee meeting held on May 21, 1992. The committee, which meets daily, had been established to provide an initial, multi-discipline review of TUE forms in order to identify: (1) potential impact on Unit 1, (2) potentially reportable conditions, and (3) significant conditions adverse to quality. The committee consisted of a chairman and representatives from operations/startup, construction, engineering, quality assurance, quality control, material management, and licensing. The establishment of this committee (July 1991) and the implementation of prescribed activities is considered a strength and a demonstration of management's continuing effort to enhance the corrective action program.

The inspectors additionally reviewed whether inspection reports had been used to document and correct conditions which otherwise should have been documented in TUE forms. By not entering unsatisfactory conditions into the corrective action program via the TUE form, the required level of review including documented evaluations and establishment of preventive corrective actions could not occur. In addition, that information would not be available for use in the trending program and potential repetitive type conditions might not be identified.

The inspectors reviewed Procedure NQA 3.09-0.09, "Quality Control Inspection Reporting and Documentation (Unit 2)," Revision 3 through Document Change Notice (DCN) 01 dated April 20, 1992. The procedure clearly described the

function of inspection reports and their use in documenting rework and reinspection and/or scrap of components. The procedure stated if the rework and reinspection, and/or scrap could not be performed within the scope of existing engineering requirements (e.g., specifications, codes, drawings, etc.), then a TUE form must be initiated in accordance with Procedure 2PP-3.05 and the TUE form number shall be referenced on the inspection report. In order to establish whether TUE forms were being initiated where required, the inspectors reviewed a sample of inspection reports initiated during the recent backfit inspections covering the electrical and mechanical disciplines (see Attachment). The electrical reinspections were controlled by Procedure NQI 3.09-E-004, "Unit 2 Electrical Reinspection," Revision 6 dated August 29, 1991. This procedure required the initiation of a TUE form for any unsatisfactory inspection attributes that could not be resolved by rework. The inspectors reviewed the electrical inspection report logs and noted that 74 unsatisfactory inspection reports had been initiated and closed since September 1991, of which 19 had been elevated into TUE forms. The inspectors selected 10 of the remainin 55 unsatisfactory inspection reports for review. In each case, the identified unsatisfactory inspection attributes had been corrected by rework in accordance with engineering approved instructions either on the inspection reports or on supplemental construction work documents. Therefore, the initiation of a TUE form was not required.

The mechanical reinspections were controlled by Procedure CQP-ME-107, "Installation of Mechanical Equipment," Revision 0 through PCN 02 dated March 23, 1992, and Specification CPES-M-2011, Revision 0, which provided a list of attributes and commodities requiring reinspection. Special checklists, which contained the applicable inspection attributes, were used in the mechanical area in lieu of inspection reports. However, the same requirements regarding initiation of TUE forms, engineering reviews, and corrections by rework existed. In the mechanical area, a mechanical equipment backfit inspection status report showed that there were a total of 86 reinspected components, 26 of which were identified as having unsatisfactory inspection attributes resulting in the issuance of 9 TUE forms. From the remaining 17 unsatisfactory components the inspectors selected 6 special checklists and the associated construction work documents for review. Each of the unsatisfactory inspection attributes had been either reworked or replaced in accordance with engineering approved instructions delineated on a special checklist supplement. There were no instances identified where a TUE form had not been initiated when required.

The inspectors also reviewed 21 TUE forms (see Attachment), 18 of which had been identified during review of the inspection report logs and the mechanical equipment backfit inspection status report. This review was undertaken in order to assess the adequacy of the evaluations and methodology used, and to assure that the dispositions appropriately addressed the identified conditions. In all cases, the inspectors considered the evaluations and dispositions to have been properly performed. The inspectors reviewed three TUE forms that had been initiated during 1992 and classified as programmatic/repetitive. This review was performed to evaluate the adequacy of the root cause analyses required for that classification by Procedures

2PP-3.05, "Processing of TU Evaluation Forms (TUE) and Conditional Release Requests (CRRs)," and STA-515, "Root Cause Analysis," Revision 2 through PCN 2 dated January 22, 1992. The inspectors considered the root cause analyses to be particularly comprehensive.

The inspectors performed a review of the previously used Project Quick Look Program, which was controlled by Procedure 2PP-2.19, "Event Reporting and Project Quick-Look Program," Revision 0 dated July 1, 1991. This program was established to provide guidelines for Unit 2 incidents that required rapid management notification and the establishment of a Unit 2 manager responsible for evaluation and corrective action. The procedure contained a form titled "Unit 2 Event Quick-Look Report," which was to be used to provide a description of the event, responses/consequences, and the personnel responsible for evaluation. The procedure was noted to be vague regarding the need for TUE form initiation; therefore, it could have been construed that the Unit 2 Event Quick Look Report was an acceptable alternative to a TUE form. In order to eliminate any concerns regarding the potential use of the Quick Look Report as a substitute for the TUE form, the licensee revised the procedure as Revision 1 on January 14, 1992, titled, "Event Reporting and Response," and deleted the Unit 2 Event Quick-Look Report. The purpose of the procedure was to provide timely communication of event information to project personnel. The Project Duty Manager was responsible for recording event actions (i.e., a description of the event and known consequences, and the assignment of a responsible marager). The revision also addressed the responsibilities of the designated Unit 2 manager with respect to the performance of an in-depth evaluation and the initiation of a TUE form. There were other editorial changes which eliminated the vagueness regarding the need for or use of TUE forms.

3. PREOPERATIONAL TESTING QUALITY ASSURANCE (35301)

The objectives of this inspection were to ascertain that the applicant had developed and implemented a quality assurance program which provided controls over the conduct of preoperational testing and related activities that was consistent with Final Safety Analysis Report commitments and regulatory requirements.

3.1 Management

The inspectors reviewed the documents and procedures listed in the Attachment. The preoperational quality assurance program was defined along with the remainder of preoperational test activities in Procedure CP-SAP-07B. Preoperational tests were written by startup test engineers and approved by the Joint Test Group and startup manager. The procedure required the Joint Test Group's membership to include the quality startup supervisor. The quality startup supervisor's responsibilities included review of approved preoperational tests for the identification of surveillance/hold points. Changes to preoperational tests required the use of test procedure changes (TPCs). When a TPC constituted a change to the intent of a test, then it was required to be approved by both the Joint Test Group and startup manager.

The inspectors reviewed the Joint Test Group's meeting minutes and verified the approval of a sample of test procedures and their associated TPCs. The meetings minutes were noted to not always clearly state that an issue, such as a TPC, had been accepted by the Joint Test Group (i.e., the wording found in meeting minutes sometimes indicated that the subject was only discussed).

The startup organization had a quality assurance consultant who reported directly to the startup manager. This position appears to have been created because of quality problems identified during the initiation of the preoperational test program.

At the present time, 117 preoperational tests have been planned, for which 21 test procedures had been written and approved. Most of the testing directed by those test procedures had been accomplished. Generally, the restoration and final review of test data remained to be performed. The inspectors established a sample of 13 preoperational test packages for review of surveillance and inspection activities. The sample was based on safety significance and availability of the tested systems and is listed in the Attachment. The scope of the preoperational test program was compared to the commitments found in Chapter 14 of the Final Safety Analysis Report and no discrepancies were identified.

3.2 Surveillance and Inspection

The construction quality assurance organization was responsible for performance of inspection and surveillance of preoperational testing activities. In general, the inspection function was accomplished by surveillance/hold points at designated steps in the test procedures. The surveillance function was accomplished by observation of activities other than the surveillance/hold points. The inspectors reviewed the surveillance/hold points identified in the sampled preoperational test packages. Inspection and surveillance activities were also found documented in Surveillance Reports QAS-92-002, -015, and -046 which had been performed during the first 3 months of 1992. With the exception of the noncited violation identified below, all hold points had been properly signed off and dated. The reviewed surveillance reports showed that inspection and surveillance activities were being performed in accordance with the designated procedures.

Nonconforming conditions identified during testing by test or quality assurance personnel were documented on SDRs, which were reviewed by the Test Group Supervisor. One observation by the inspector dealt with differing descriptions for conditions requiring the initiation of a SDR and a TUE form. These descriptions were found in Procedures CP-SAP-16 and CP-SAP-07B and could be a source of confusion. Procedure CP-SAP-16 required the issuance of a TUE form when an engineering disposition of "accept-as-is" or "repair" was requested. Procedure CP-SAP-07B required, for example, the issuance of both a SDR and a TUE form when suspect or unexpected test values and data are observed. The licensee agreed to review these procedures and eliminate the inconsistencies regarding issuance of TUE forms. The inspectors did not observe any instances where a required TUE form had not been issued.

The inspectors identified a noncited violation during review of preoperational Test Package 2CP-PT-74-03 for the reactor vessel water level indication system, in which a surveillance/hold point at Step 7.2.5 had not been signed off as being completed, whereas the test operation for the same step had been signed on March 12, 1992. It appears that Step 7.2.5, which was to take a set of eight measurements of reactor vessel level, was attempted on March 7, 1992. A nonconformance was written because the last four measurements could not be accomplished as planned. The corrective action included the issuance of a TPC which established a new step for taking the last four measurements and included a surveillance/hold point. The original surveillance/hold point was effectively split into two by the TPC. As the second surveillance/hold point was accomplished and witnessed by quality assurance on March 13, 1992, the operator returned to the original operational step and signed it without obtaining a quality assurance signature for that surveillance/hold point.

After this condition had been identified by the inspector, the licensee issued SDR No. 2053 and reviewed the 21 existing preoperational test packages. It was established that this problem was isolated because no similar examples were found. Field notes of quality assurance personnel supported sign-off of the step in question. The licensee conducted training for the involved startup test engineers with respect to this problem. The test package was corrected by the addition, annotating, and recording of the SDR. The violation is not being cited because the criteria specified in Section VII.B.1. of the Enforcement Policy were satisfied.

Another observation by the inspectors dealt with startup test engineers not being consistent in putting SDRs in test packages, logging SDRs in the index, annotating SDRs at the applicable step in the test procedure and recording SDRs in the chronological test log. The inspectors found several cases where one or more of the above steps were not performed (e.g., a SDR was logged and indexed, but not placed in the test package). The inspectors did not find any case where the SDR or information about it, was missing entirely. As the above observation was encountered by the inspectors, individual startup test engineers corrected the test packages. This inconsistency in implementation of administrative type activities by the startup test engineers was considered to be a weakness and was discussed with management in terms of needing to pay more attention to detail.

3.3 Audits

The construction quality assurance organization was responsible for performance of audits of preoperational testing activities. The inspectors reviewed the last two audits in this area. Audit QAA 91-227 was performed in late 1991 at the time preoperational testing activities began and resulted in the issuance of nine TUE forms, most of which dealt with training and qualification problems. One repetitive type TUE form was also issued because of the number of similar negative findings identified. The audit concluded that additional management attention was needed in the preoperational testing program. A subsequent audit, QAA 92-211, performed during March 1992, resulted in two TUE forms being issued. The audit also found that most of the

problems identified earlier had been corrected; however, it recommended that management continue to focus attention in this area.

The inspectors observed that auditing of preoperational testing activities had demonstrated very effective use of quality assurance resources in regard to problem identification and resolution.

3.4 Qualifications

The inspectors reviewed the training and qualification records of the personnel who performed the two audits identified above and the surveillances identified in the preoperational test packages. In addition, a sample of test personnel were verified to be properly certified. The quality assurance personnel were certified to the requirements identified in Procedure NQA 1.16-1.01. Startup test engineers were certified to the requirements identified in Procedure No. CP-SAP-19.

3.5 Summary

It was determined that a quality assurance program for preoperational testing was established and, with the exception of the noncited violation identified above, was implemented very effectively. A strong point of particular note was the identification and resolution by quality assurance of early programmatic problems with training and qualification of preoperational test personnel.

4. EXIT INTERVIEW

The inspectors conducted an exit interview on May 21, 1992, with those personnel denoted in paragraph 1, during which the inspectors 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

Chapters 14 and 17.1 , Final Safety Analysis Report, Revision 84

CPSES Quality Assurance Manual, Revision 4

PROCEDURES

NQA 1.16, "Indoctrination and Training of Nuclear Overview Personnel," Revision 6

NQA 1.16-1.01, "Indoctrination, Training and Certification of Auditors and Lead Auditors," Revision 4 with Document Change Notices (DCNs) 1 and 2

NQA 3.07, "Quality Assurance Audit Program," Revision 7 with DCNs 1 through 3

NQA 3.23, "Surveillance Program," Revision 6

CP-SAP-07B, "Preoperational Testing," Revision 0

CP-SAP-16, "Deficiency and Nonconformance Reporting," Revision 16

CP-SAP-19, "Indoctrination/Training/Qualification of Startup Personnel,"Revision 14

CP-SAP-22, "Joint Test Group," Revision 0

TEST PACKAGES

2CP-PT-01-01A and -01B, "125V Class 1E Batteries"

2CP-PT-01-03A and -03B, "125V Class 1E Batteries"

2CP-PT-02-02A through -02D, "118 VAC Elgar Inverters"

2CP-PT-37-02, "Condensate Storage and Transfer"

2CP-PT-40-02 and -04, "Fuel Transfer System and Vessel Servicing Equipment"

2CP-PT-57-01, -02 and -04, "Safety Injection System Hydraulic Performance and Accumulators"

2CP-PT-74-03, "Reactor Vessel Level Indication System"

INSPECTION REPORTS

E9100241
E9100267
E9100278
E9100320
E9100388
E9100410

E9100444
E9200018
E9200059
E9200084

SPECIAL CHECKLISTS

CP2-DOAPFT-01-BF
CPZ-MEAPPL-01-BF
CPZ-MEFTAS-04-BF
CPZ-DOAPFT-02-BF
CPZ-MEAPLD-02-BF
CPZ-MECAED-02-BF

TUE FORMS

91-2572
91-3223
91-828
91-829
91-830
91-831
91-832
91-834
91-835
92-3512
92-3526
92-2999
92-3239
92-3240
92-3725
92-4628
92-4448
92-4449

PROGRAMMATIC/REPETITIVE TUE FORMS

92-3567
92-4142
92-4498