U. S. NUCLEAR REGULATORY COMMISSION

OFFICE OF SPECIAL PROJECTS

NRC Inspection Report: 50-445/88-35
50-446/88-34

Permits: CPPR-126
CPPR-127

Dockets: 50-445
50-446

Category: A2

Construction Permit
Expiration Dates:
Unit 1: August 1, 1988
Unit 2: Extension request
submitted.

Applicant: TU Electric
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

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

Inspection At: Comanche Peak Site, Glen Rose, Texas

Inspection Conducted: May 4 through June 7, 1988

Inspector: C J Hale 6/10/88
C. J. Hale, Reactor Inspector Date
(paragraphs 4. and 5.)

Inspector: for H Livermore 6-10-88
P. C. Wagner, Reactor Inspector Date
(paragraph 4.)

Consultants: V. Wenczel, EG&G (paragraphs 2, 3, 4, and 5.)
J. Dale, EG&G (paragraph 4.)
K. Graham, Parameter (paragraph 4.)

Reviewed by: H. H. Livermore 6-10-88
H. H. Livermore, Lead Senior Inspector Date

Inspection Summary:

Inspection Conducted: May 4 through June 7, 1988 (Report 50-445/88-35; 50-446/88-34)

Areas Inspected: Unannounced, resident safety inspection of follow-up on violations/deviations, use of three-part memorandums, tagging nonconforming equipment, and general plant areas (tours).

Results: Within the areas inspected no violations or deviations were identified. One potential weakness was identified concerning the disposition of Corrective Action Reports (CARs). CAR-110 appears to have been dispositioned improperly or the documents recording its disposition are incomplete (see unresolved item, paragraph 2). It is also noted that the program for identifying and documenting nonconforming conditions in installed equipment is not being effectively implemented (paragraph 4.)

DETAILS

1. Persons Contacted

O. Bhatty, Corrective Action Group Supervisor, TU Electric
J. Griffin, Deputy Chief Construction Engineer, TU Electric
T. L. Heatherly, Licensing Compliance Supervisor, TU Electric
R. J. Puchatty, Lead Construction Engineer, TU Electric
J. F. Streeter, Director, QA, TU Electric
J. K. Uehlein, QC Staff Assistant, TU Electric

The NRC inspectors also interviewed other applicant employees during this inspection period.

2. Follow-up on Violations/Deviations (92702)

(Closed) Violation (446/8622-V-07): Potential nonconformances were documented for resolution on reports other than nonconformance reports (NCRs).

This item pertains to the electrical conduit walkdowns which were performed by EBASCO as prescribed by Procedure FVM-CS-014, Revision 3, "As-built Field Verification Method-Design Control of Electrical Conduit Raceways for Unit 2 Installation in Unit 1 and Common Areas, Class 1." The procedure provided a method for documenting potential nonconforming conditions which were outside the scope of the walkdown effort. The method was to report these potential nonconformances on the form "Request for Inspection"; however, the procedure did not define the process for tracking these items, how they would be accounted for, or how disposition and follow-up would be accomplished.

In response to this violation the applicant initiated Corrective Action Request (CAR) No. 110, dated December 5, 1986, to determine: (1) the root cause of the problem, (2) any generic implications, (3) corrective action, and (4) action to prevent recurrence. Based on EBASCO's response to CAR-110, TU Electric's Engineering Assurance (EA) considered the condition to be generic in nature. EA requested other site contractors to evaluate their programs for similar unapproved deficiency/nonconformance identification methods (TU Electric interoffice memorandum, NE No. 6135, dated March 27, 1987). The other contractors performing walkdown related activities using Field Verification Method (FVM) procedures were Stone and Webster Engineering Corporation - Pipe Support Engineering (SWEC-PSE) Stone and Webster Engineering Corporation - Corrective Action Program (SWEC-CAP), and Impell Corporation. (It should be noted that SWEC-PSE and SWEC-CAP have since been combined and the -PSE and -CAP designators were deleted.) Responses to CAR-110 from these contractors were as follows.

EBASCO investigated the finding and determined that the deficiency identified by the CAR had direct implications on five other FVM procedures under their responsibility. The following is a list of impacted FVMs and the documents used to report potential nonconformances.

FVM-CS-010	Three part memorandums
FVM-CS-014	Request for Inspection
FVM-CS-16	Deficiency Form
FVM-CS-29	Required Modification Form
FVM-CS-33	Request for Inspection
FVM-CS-036	Type 1 Modification Form

SWEC-PSE reviewed FVM procedure numbers FVM-PS-024, -037, and -038 to determine how potential nonconformances were being reported. The result of their review was that potential nonconforming conditions were being reported by approved methods, such as nonconformance reports (NCRs).

SWEC-CAP reviewed FVM Procedures FVM-EE-022, -023, -063, -064, and FVM-CS-058 and found that items in potential noncompliance with established criteria, either in or out of the scope of the FVM, required the initiation of a NCR, as appropriate. SWEC-CAP initiated discrepancy forms in accordance with Project Procedure PP-051, "Equipment Qualification Walkdown," Revision 1, in support of the equipment qualification walkdown program. The discrepancy forms were intended to document inconsistencies; for example, conditions for which the walkdown engineer was unable to determine if it was nonconforming. These forms were required to be forwarded to Impell for review and resolution and conversion to an NCR, if required, in accordance with Impell's Procedure IMT-EQ-07, "Equipment Qualification Discrepancy Form Processing and Closure." Procedure IMT-EQ-07 provided control of discrepancy form initiation, processing, tracking, closure, and record keeping. Included in the procedure were instructions for initiating a NCR or DR for valid discrepancies. The NRC inspector reviewed the discrepancy form tracking log and a sample of eight discrepancy forms initiated by SWEC-CAP. These forms contained justification for closing. A discrepancy form tracking log documented the status of each discrepancy form and identification of the NCR or DR resulting from discrepancy form processing.

Impell's fire protection program (not safety-related) reviewed seven FVMs and identified that the FVMs did not detail the method for reporting potential deficiencies/nonconforming conditions. The FVMs were FVM-FP-011, -041, -042, -[illegible], -049, and -052; however, Impell did not use any unapproved reports or forms to document nonconformance. Nonconformances were reported on NCRs, even though it was not procedurally required.

Disposition of CAR-110

The cause of the problem was that procedures (FVMs) failed to provide a consistent means for documenting and tracking potentially nonconforming conditions. Corrective action was to revise the affected FVMs to adequately address the reporting of nonconforming conditions. In addition, those conditions reported on documents other than NCRs would be converted to the appropriate form. Preventative action included revision of the affected FVMs and assuring that all future FVMs contain the appropriate information for documenting potentially nonconforming conditions.

Safety Implications

EBASCO's use of unapproved forms to document potential nonconformances was not considered reportable to the NRC pursuant to 10 CFR Part 50.55(e). Even though the EBASCO reporting methods were a departure from FSAR commitments, the cited conditions would not have gone undetected or uncorrected. Each completed walkdown documentation package was transmitted to EA for a completeness review in accordance with Procedure ECE-DC-24, Revision 5, "As-built Package Preparation." The EA review would have assured that any unresolved or potentially nonconforming item identified (on forms other than NCRs) was addressed in accordance with TU Electric's QA program requirements.

NRC Inspection of TU Electric's Committed Actions

The NRC inspector reviewed actions taken by the applicant to resolve CAR-110. This review was to verify that committed actions were taken and that those actions were adequate to resolve CAR-110.

The NRC inspector reviewed the six EBASCO effected procedures and found the revised FVMs required out of scope items to be reported on the forms permitted by the NCR program. Those out of scope items previously reported on improper forms were reissued on the correct forms. In addition, review of training records for the procedural changes verified that EBASCO personnel received training on the use of the revised FVMs. Examination of the three SWEC-PSE FVMs verified that their procedures properly addressed the reporting of nonconforming conditions.

Review of SWEC-CAP's response to CAR-110 disclosed that their response was not completely responsive to the issue identified in the CAR. Their response did not address the methods used for documenting deficiencies associated with previous revisions of FVMs. Based on further discussion with SWEC-CAP and TU Electric QA corrective action personnel, the response

was clarified and no problems were identified with SWEC-CAP's method of documenting out-of-scope problems in the past or present.

The methods used by TU Electric QA and EA to process CARs does raise questions with respect to the review and acceptance of CAR responses, and the verification of CAR dispositioning. The NRC inspector determined that verification of the SWEC-CAP response had occurred by QA, but was not documented, and that QA closed the CAR with incomplete documentation. Based on the processing of this CAR, the NRC will review the CAR process to assure compliance with commitments and requirements (445/8835-U-01).

Based on the foregoing actions taken by TU Electric and the NRC inspector's verification of these actions, this item is being closed.

3. Use of Three-part Memos (35061)

The purpose of this inspection was to verify that the use of three-part memos by TU Electric's Construction Department conformed to ECC Policy Statement No. 2, Revision 0, "Construction Department Correspondence." The policy statement permits the use of three-part memos for internal correspondence between the construction department, craft, and the construction engineers. Three-part memos may also be used to convey administrative problems between the construction department and the engineering department. The policy statement prohibits the use of three-part memos to identify and disposition nonconformances, deficiencies, and deviations.

The NRC inspector reviewed 55 three-part memos. These memos were written to or from project engineering, construction, craft, SWEC, EBASCO, and TU Electric QA/QC. Thirty-five of the three-part memos were found to be administrative and 20 were either giving status of activities or conveying other similar information.

Examples of the administrative three-part memos included:

- Transmittal of procedures, NCRs, DRs, Design Change Notices, and other documents for the responsible organization's review.
- Request for vacation or other time off.
- Personnel actions such as changes in job classification, hourly rate, request for overtime, use of B&R time sheets, etc.

- Requests for office supplies or equipment from the tool room (e.g. hand tools, rain coats, etc.).

Examples of the other three-part memos were:

- Craft indicating to construction engineering that construction activities were complete and that engineering walkdowns could begin.
- Separation of one NCR into a Unit 1 and Unit 2 NCR to expedite NCR processing.
- Requesting copies of design change authorizations.
- Package control unit requesting the return of long term work packages held by craft for updating.
- Craft requesting construction engineering to review construction activity interface prior to beginning work.
- Provide supplemental detail to the turnover sheet used by craft to indicate status of work performed during day/night shift.
- Request to the responsible reviewing organization for the status of DRs, NCRs, procedures, etc. that were inprocess.

Based on the NRC inspector's review of 55 three-part memos, no instances of inappropriate use of the three-part memos were observed. Memos reviewed were found to be written and used in accordance with ECC Policy Statement No. 1. None of the memos provided work direction to construction engineers, craft, or QA/QC personnel in place of the construction traveler work packages. Neither were the memos used to document or disposition nonconformances, deficiencies or deviations.

No deviations or violations were identified in this area of the inspection.

4. Tagging Nonconforming Equipment (35061)

Procedure NEO 3.05, Revision 3, "Reporting and Control of Nonconformances," states in Section 6.1.4, "NCR tags shall be placed on nonconforming items . . . if the item is not installed." Several meetings have been held with TU Electric management discussing the advantages and disadvantages of tagging installed equipment that is nonconforming. After further consideration TU Electric has concluded that their current program (not tagging installed equipment) is working effectively and do not consider a revision of this procedure is necessary.

On April 13, 1988, two NRC inspectors toured Unit 1 noting untagged nonconforming conditions. Those conditions were provided to a TU Electric QC representative accompanying these NRC inspectors. Ten potentially nonconforming conditions were identified in Unit 1: damaged gauges at four different locations, external rust on stainless steel safety injection piping, a differential pressure gauge with an informal note attached stating "out of order", damaged flexible conduit on a pressure transmitter, an installed Hilti bolt with apparent damage from an electrical arc, entries into a junction box that had not been sealed, and a damaged flywheel cover on the diesel generator. The QC representative was asked to determine if these potentially nonconforming conditions had been documented and to provide copies of that documentation to the NRC inspector for evaluation. Within 48 hours the QC representative had completed his documentation search on nine of the items with the following results.

The damage on the Hilti bolt was documented on a NCR (87-05693) in December 1987. The diesel generator flywheel cover was documented for repair on Work Request WR-46041 issued in November 1987. A NCR (88-06505) was initiated as a result of this inspection to determine the cause of the cover damage and assess the potential for any further damage to the diesel generator. A NCR (88-07343) was initiated to document what was found to be paint on the stainless steel piping. The four damaged gauges and the damaged flexible conduit were not documented, but work requests were initiated for each. The gauge with the "out of order" note was in fact not out of order. On May 25, 1988, documentation was provided to the NRC inspector supporting the fact that the junction box in question was not required to be sealed.

On May 5, 1988, two other NRC inspectors conducted a similar tour with the QC representative and identified nine additional potentially nonconforming conditions in Unit 1: four locations where cotter pins were broken, missing, or not spread; a thermocouple that had been removed; a loose gland nut on a valve; an open instrument line on another valve; a bent instrument line; and a hydraulic snubber with an empty hydraulic fluid reservoir. During this tour about 20 other in process items were identified for which the proper work documentation was requested.

Within the following 3 weeks all of the requested information had been provided. The following are the results that pertained to the potentially nonconforming items only. Concerning the four cotter pins: on one the associated hanger package was inprocess and was still subject to QC inspection; the cotter pin that had not been spread was subsequently found spread, but apparently without proper work authorization

documents thus a deficiency report was initiated (C-88-02979); and no documentation was found for the two remaining cotter pins and NCRs were initiated (88-08405 and 88-08360). A work request (TBX-RCESHS-06) existed to correct the hydraulic fluid in the snubber. The thermocouple had been removed for calibration and was being stored for protection purposes as were many others. Before the affected systems are used or tested, controls have been established to assure these thermocouples have been re-installed (e.g. Procedure TDA-303, "Conduct of Testing," Prerequisite Test Instructions, etc.). The remaining three items (loose gland, open instrument line, and bent instrument line) had no documentation thus NCRs were initiated (88-08756, 88-08789, and 88-08755).

In summary, of the 19 potentially nonconforming items identified (both safety and nonsafety related) only seven had documentation supporting the condition that was observed in the field. As a result of these NRC inspections the following documents were caused to be initiated: five work requests, one deficiency report, and seven NCRs. TU Electric personnel stated that several of the items identified would have been detected during the various ongoing field activities such as field verification efforts, system walkdowns, and area turnover inspections. While the NRC inspectors agree that ongoing field activities may in the future identify these type conditions, existing programs are in place for immediately identifying, documenting, and tracking nonconforming conditions of installed equipment. It does not appear that these existing programs are being implemented effectively.

The NRC inspectors will continue to conduct these type inspections to assure that improvements are made in the effectiveness of TU Electric's program for identifying nonconforming conditions in installed equipment in a timely manner.

5. Plant Tours (92700)

The NRC inspectors made frequent tours of Unit 1 and common areas of the facility to observe items such as housekeeping, equipment protection, and in-process work activities. The following are observations from one such tour.

On June 2, 1988, the NRC inspector reviewed four HVAC Construction Operations Traveler documentation packages; Nos. DH-1-830-1N-4AA, DH-1-830-1N-4R, B-1-3901-658-028, and B-1-3901-658-048. The purpose of the review was to verify that these packages provided suitable instruction and documentation to perform and record construction and inspection activities. Two of the packages were inprocess for new work, and two packages contained both completed (old) and inprocess work. (The two inprocess packages for new work were

developed in accordance with the recently implemented process control consolidation program, which reduces the size and complexities of document packages.) The four packages were found to contain documentation identified in the package inventory card. Included in the packages were: Construction Operations Traveler Scope Sheets, Construction Operations Traveler, drawings, design change authorizations, inspection reports, and engineering documents (walkdown verification data sheets, duct support lists, etc.). The traveler scope sheets, the Construction Operations Travelers and Inspection Reports appeared to provide suitable instructions for the construction and QC personnel to perform and record work activities. QC hold points were identified and adhered to as required.

One observation was that completed or older HVAC welding checklists provided signature, date, and acceptance or rejection blocks for QC to complete for both weld fit-up and final weld inspection. By previous procedure, ECC 10.99-HV-001, Revision 1,"HVAC - Installation, Rework, and Repair," only the signature and date blocks were required to be completed to signify QC acceptance of the fit-up and final weld. Neither of the accept/reject blocks were required to be completed and in most instances they were not. The current procedure, CHV 101, Revision 5, "HVAC - Detailing, Installation, Rework, and Repair (Unit 1 and Common Areas)," requires that the accept/reject (satisfactory/unsatisfactory) block be completed. Review of the new forms identified that these blocks were completed, as required.

Therefore, with both old and inprocess documents in some documentation packages, it is at times both confusing and time consuming for the NRC inspectors and the project personnel to determine what has been completed and if it was completed properly. The recently implemented process control consolidtion program should correct this problem; nowever, the NRC inspectors will continue to monitor these activities.

No violations or deviations were identified in this area of the inspection.

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. One unresolved item disclosed during the inspection is discussed in paragraph 2.

7. Exit Meeting (30703)

An exit meeting was conducted June 7, 1988, with the applicant's representatives. No written material was provided to the applicant by the inspectors during this reporting

period. The applicant did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. During this meeting, the NRC inspectors summarized the scope and findings of the inspection.