U. S. NUCLEAR REGULATORY COMMISSION OFFICE OF SPECIAL PROJECTS

NRC Inspection Report: 50-445/88-03 Permits: CPPR-126 50-446/88-02 CPPR-127

Category: A2

Dockets: 50-445 50-446

> 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 and 2

Inspection At: Comanche Peak Site, Glen Rose, Texas

Inspection Conducted: January 6 through February 2, 1988

Inspector:

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2-16-88 Date

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H. S. Phillips, Senior Resident Reactor Inspector, Construction

Reviewed by:

RF	Warnick	for		
H. H.	Livermore.	Lead	Senior	Inspector

Inspection Summary

Inspection Conducted: January 6 through February 2, 1988 (Report 50-445/88-03; 50-446/88-02)

<u>Areas Inspected</u>: Unannounced resident safety inspection including (1) applicant actions on previous inspection findings; (2) follow-up on violations/deviations; (3) applicant action on 50.55(e) deficiencies; (4) general plant inspections; and (5) quality programs and administrative controls relative to civil, electrical, and mechanical hardware deficiencies.

<u>Results</u>: Within the areas inspected, no violations or deviations were identified. Paragraph 5 below discusses past NRC inspections which documented perceived weaknesses in TU Electric's nonconformance reporting system; however, several additional inspections have subsequently led the NRC inspectors to conclude that the nonconformance program meets the NRC requirements.

DETAILS

1. Persons Contacted

*J.	C. Aldridge, Engineering Assurance (EA), Stone & Webster
	Engineering Corporation (SWEC)
*R.	P. Baker, EA Regulatory Compliance Manager, TU Electric
*J.	L. Barker, Manager, EA, TU Electric
*D.	P. Barry, Manager, ESG, SWEC
*D.	N. Bize, EA Regulatory Compliance Supervisor, TU Electric
*M.	R. Blevins, Manager, Technical Support, TU Electric
*J.	T. Conly, Lead Licensing Engineer, SWEC
*J.	C. Finneran, CPE-FSE, TU Electric
*K.	M. Fitzgerald, HVAC Program Manager, Ebasco
*P.	E. Halstead, Manager, Quality Control (QC), TU Electric
*T.	L. Heatherly, EA Regulatory Compliance Engineer,
	TU Electric
*C.	R. Hooten, CPE-Civil Engineering Unit Manager, TU Electric
*J.	J. Kelley, Manager, Plant Operations, TU Electric
*0.	W. Lowe, Director of Engineering, TU Electric
*F.	W. Madden, Mechanical Engineering Manager, TU Electric
*D.	M. McAfee, Manager, Quality Assurance (QA), TU Electric
*D.	E. Noss, QA Issue Interface Coordinator, TU Electric
*E.	Odar, Project Engineering Manager, Ebasco
*M.	D. Palmer, Plant Evaluation, Nuclear Operations,
	TU Electric
*B.	L. Ramsey, Project Manager Civil/Structural, TU Electric
*D.	M. Reynerson, Director of Construction, TU Electric
*12.	J. Riggs, Plant Evaluation Manager, Operations, TU Electric
***	B. Scott, vice President, Nuclear Operations, TO Electric
24.	E. Scott, Manager, Startup, TU Electric
414	C. Smith, Fiant Operations Starr, TO Electric
*7	R. Steelman, CPRI, IV Electric
* 7	E. Stevens, Manager, Electrical Engineering, TO Electric
**	r. Streeter, Director, WA, IV Electric
20	D. Walker Manager of Nuclear Licensing WI Plastria
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The NRC inspector also interviewed other applicant employees during this inspection period.

*Denotes personnel present at the February 2, 1988, exit interview.

2. Applicant Action on Previous Inspection Findings (92701)

a. (Closed) Unresolved Item (445/8715-U-02): Crack in the concrete ceiling in Room 83 of Unit 1 not documented on a nonconformance report (NCR). The NRC inspector observed this crack on August 20, 1987, and again on August 31, 1987. On September 1, 1987, TU Electric stated that the project would not issue an NCR until the crack was chipped out to sound concrete and it was determined that it exceeded the size allowed in Specification SS-9. The NRC stated that defects should be identified as nonconforming and then disposition the defect instead of the reverse; i.e., dispositioning and then documenting the defect. The utility's position was that chipping was necessary to determine the extent of the defect and whether or not the defect met the criteria to be considered "nonconforming." If it met the criteria, an NCR was prepared.

On September 17, 1987, NRC management and inspectors met with TU Electric's management and technical staff to discuss this issue. The NRC was informed that Specification SS-9 allowed the practice which had been questioned by NRC management and the NRC inspector. Subsequently, the NRC inspector determined that Specification SS-9 was revised and now requires an NCR to be issued prior to exploring and dispositioning the defect. This item is closed based on the revision of the specification.

(Closed) Unresolved Item (446/8716-U-02): Attachments b. welded to a plate in the fabrication shop in 1985 had to be removed because the heat numbers did not match material reguisition Form 341657. On September 19, 1987, the NRC inspector observed that attachments were being removed and learned that two of the attachments were not traceable to heat numbers on the requisition form. Further, it was learned that after removal, the craftsmen found that 2 of 7 attachments had been incorrectly identified relative to the applicable heat number on the requisition form. The numbers were on the base of the two attachments and after they were welded to the plate (with the base against the plate) the numbers were not visible. Apparently, someone later noticed that these two attachments had no heat numbers on top of the attachments, looked at the top of the other five attachments that had visible heat numbers and assumed that the two unmarked attachments were from the same heat. This assumption was incorrect as they were fabricated from two other different heats. The NRC asked why no NCR was written and was informed that Traveler CE84-145-0903 was not completed and all work had not been accepted by the quality control inspector.

In subsequent discussions, TU Electric informed the NRC inspector that Procedure NEO 3.05, R2 allows rework without issuing an NCR. See paragraph 5 below for the basis for closing this issue.

c. (Closed) Open Item (445/8720-0-04): A stud broken off in the body of containment spray motor in Room 61 of the safeguards building. On September 9, 1987, the NRC inspector identified the above condition and subsequently found that no NCR was issued on this condition. During this inspection period, the inspector verified that the broken studs had been replaced. This item is closed based on verification of corrective action and the discussion in paragraph 5.

d. (Closed) Unresolved Item (445/8720-U-03): Stainless steel bristles from a cleaning brush lost in journals of Transamerica DeLaval diesel generator engine. On September 9, 1987, the NRC inspector observed work activity relative to performing baseline inspection on connecting rod (Con-rod) bolts by measuring the stretch using an ultrasonic test unit. The inspector learned that on August 29, 1987, TU Electric maintenance mechanics used wire brushes to clean con-rod threaded bolt holes and this was questioned by TU Electric's QC inspector. On September 2, 1987, the QC inspector placed a boroscope in the four upper holes of con-rod journal #6 and found wire bristles lodged in the serrated mating material. Because the mechanic could not retrieve the bristles with mechanical fingers, the work order was revised to separate the rods, clean, and inspect the area to assure removal of the wire bristles. The NRC inspector observed the disassembly and cleaning of con-rod #5. When this operation was guestioned, the QC inspector explained that the problem with the brush would be eliminated in the future by keeping one upper bolt tight along with one lower bolt while cleaning and performing Eddy Current Tosting. Also the wire brushes would no longer be used.

On September 29, 1987, the NRC inspector requested a copy of the nonconformance report and was informed that none was issued because the "potentially" nonconforming condition was documented in Revision 3 of the work order and the potentially nonconforming condition could be reworked to comply with existing engineering requirements in accordance with approved procedures.

The QC inspector also stated that when he originally questioned the practice of using the brush and the loss of bristles, he was informed that the same technique had been used at other nuclear plants and no bristles were lost. Considering this statement, the NRC inspector questioned whether this condition was considered relative to 50.55(e) construction deficiency reporting requirements. The answer was that no deficiency was identified because it could be reworked and was documented on the work orders. The NRC inspector reviewed the entire file on Work Order C870002841 which also included In-process Monitoring Quality Sheets and Inspection Report (IR) Continuation Sheets. The work

order and other documents do not specifically describe the loss of bristles but Revision 3 of the work order describes actions which would result in a cleaning step that would assure that the bristles were removed. Similarly, the quality documents discuss cleanliness checks but do not indicate unsatisfactory conditions. As a result, the NRC inspector concluded that TU Electric managers, supervisors, or engineers would not necessarily be aware of specific conditions that were reworked. Therefore, the condition would not be evaluated by these managers to determine the need for an NCR or evaluated for 50.55(e) reportability. The NRC inspector considers this to be a weakness in their nonconformance/corrective action system; however, the policy, procedures, and practice apparently do not violate Criteria XV and XVI.

The NRC inspector considers this item closed based on the TU Electric's NCR policy discussed in paragraph 5.

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

(Closed) Violation (446/8617-V-07): Failure to correct Unit 2 steam generator equipment identification numbers and documentation. The inspector found that four steam generators identified on the drawings did not match the as-built condition; i.e., steam generator (TCX-RCPCSG-04) was actually in Loop 1 but was shown in the drawings as being in Loop 4. TU Electric was aware of this and had written letters to Westinghouse requesting correction but had not issued NCRs.

The NRC inspector reviewed 20 documents in the file which included the response to the violation, nonconformance reports (NCRs), and work travelers that describe subsequent corrective actions. TU Electric concluded that even though improperly identified, the steam generators are physically and technically correct as installed. Regardless, the component identifications on the name plates were corrected by restamping the existing plates until new labels are installed. The inspector observed the changes made to the plates. The applicable Westinghouse (W) quality releases, drawings and technical manuals were revised. The NRC inspector considers this item closed based on the documentation review and verification that name plates were corrected.

Follow-up on 10 CFR Part 50.55(e) Applicant Identified Construction Deficiencies (92700)

The NRC inspector received and reviewed Construction Deficiency Reports CP-88-01 through CP-88-25 which were identified as potentially reportable construction deficiencies in accordance with 10 CFR Part 50.55(e). Each report was reviewed to assure that the deficiency was fully identified, described, evaluated, and that the NRC was notified in accordance with TU Electric Procedure NEO-CS-1, Revision 1 and 10 CFR 50.55(e) requirements.

The following previously potentially reportable items were completed by TU Electric. The NRC inspector performed field verifications of hardware and corrective actions that were in process.

a. (Closed) SDAR CP-86-11, Construction Deficiency (D1-0205): Component cooling water (CCW) impellers contained linear indications. While cleaning the subject pumps, TU Electric's maintenance personnel visually inspected and observed indications that were subsequently confirmed by magnetic particle testing.

The NRC inspector reviewed TU Electric's SDAR CP-86-11 file which included all of the corrective action documents and supporting documentation showing the repairs made to Unit 1 CCW impellers. Selected documents were reviewed for Unit 2 CCW and spare impellers which had similar defects. This included QC verification of steps to correct these parts. The NRC inspector observed disassembly for repairing these components several times during past routine inspections. Corrective action has been completed.

(Closed) SDAR CP-86-62 Construction Deficiency (D1-0254): b. Misinterpretations of the polar crane load cases. The NRC inspector reviewed SDAR CP-86-62 file for supporting documentation which showed: (1) the specified corrective action will prevent crane uplift during a seismic event, (2) the rail is adequate for horizontal loads, and (3) the rail is stable during a safe shutdown earthquake (SSE). Stone & Webster Calculation 16345-EM(B)-001-CZC showed an absence of uplift forces on the crane support structure due to seismic conditions but it was found that an overstress (relative to FSAR commitments) of hold down clamps resulted. Design Change Authorization (DCA)-31296 modified the clips to assure that they remain within FSAR commitments; i.e., they conform to allowable stress for specified loads. The NRC inspector reviewed all DCAs, work orders and work travelers for approved modifications of Unit 1 polar crane hold-down clips and selected documentation of similar work in Unit 2. In addition, TU Electric's QC documents revealed that inspection of these activities had been accomplished. The NRC inspector has repeatedly observed these activities in both units within the last six months.

Corrective action is complete.

 Quality Programs and Administrative Controls Affecting Quality (47053, 51053, 51063) In NRC Inspection Reports 50-445/87-03, 50-446/87-03; 50-445/87-07, 50-446/87-06; 50-445/87-15, 50-446/87-12; and 50-445/87-20, 50-446/87-16; several instances were documented where deficiencies were not placed in the NCR system to assure identification, evaluation and disposition (corrective action). In NRC Inspection Report 50-445/8703; 50-446/8703, an inspector clearly stated the issue by saying that the operations organization used work orders in lieu of NCRs but added that work orders were reviewed for nonconforming conditions. The NRC inspector noted that an NCR should be immediately written to document a deficiency.

In mid 1987, TU Electric and NRC management (including their staff and NRC inspectors) met to discuss this issue. TU Electric requested the meeting and explained how work orders and other documents could document deficiencies instead of using NCRs. NRC personnel agreed that potential nonconformances could be handled in this manner and in process repairs may be made negating the need for an NCR.

During a subsequent inspection, a second inspector found other hardware deficiencies as described in unresolved items 445/8715-U-02 and 445/8720-U-03, and open item 445/8720-0-04. These deficiencies were followed up to determine if the policy and practice accomplished what is required by Appendix B of 10 CFR Part 50. While pursuing the resolution of these issues, the NRC inspector found that TU Electric's corporate Procedure NEO 3.05 states, in part, that NCRs shall be issued if: "(a) a potentially nonconforming condition is identified and an approved method is not provided in the work, inspection or test procedures or program to document the condition; or (b) a potentially nonconforming condition has been identified and documented in accordance with approved procedures or programs such as: Inspection Reports, Work Orders, or Test Deficiency Reports and the identified condition cannot be corrected (reworked or scrapped) to comply with existing engineering requirements in accordance with approved procedures."

During discussions with TU Electric personnel, the NRC inspector questioned whether this literally complied with Criterion XVI of Appendix B to 10 CFR Part 50 which states that <u>all</u> conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances shall be promptly identified and corrected. TU Electric stated that in-process repair without issuing an NCR is an accepted industry practice. The NRC inspectors acknowledged that certain "in-process" deficiencies commonly encountered (such as welding defects that are repaired by welders during welding) do not require nonconforming or deficiencies have been previously encountered and dispositioned so frequently that standard procedures have been developed to handle these well known in-process defects. The NRC inspector stated that this appears to differ from the issue concerning a loss of bristles in the diesel engine which had never been encountered at the Comanche Peak site and no standard disposition had been made.

Near the end of this inspection period, onsite NRC management and inspectors discussed the TU Electric policy of expanding the industry practice concerning welding; i.e., by extending "in-process" correction to any other defect or deficiency while the work activity is "in-process" and no NCR would be issued. The issue of not writing an NCR if the material or component is scrapped was also discussed. Although these practices may not be the most desirable, they were found to be consistent with NRC regulations as TU Electric trends the deficiencies work orders, inspection reports and other documents. Based on the above, the NRC inspector considers these issues resolved.

6. <u>General Plant Inspections (47053, 50053, 50073, 50090, 50100,</u> 51053, 52053, 53053, 55050, 55100, 64053)

At various times during the inspection period, the NRC inspector conducted general inspections of the Unit 1 and 2 reactor containment (RCB), safeguards (SGB), auxiliary (AB), electrical control (ECB), and diesel generator (DGB) buildings. All accessible rooms in these buildings were inspected to observe current work activities with respect to major safety-related equipment, electrical cable/trays, mechanical components, piping, welding, coatings, Hilti bolts, and removal of debris from seismic gap between buildings. The housekeeping, storage, and handling conditions inside these buildings and various outside storage areas were also inspected.

No violations or deviations were identified.

7. Exit Interview (30703)

An exit interview was conducted on February 2, 1988, with the applicant's representatives identified in paragraph 1 of this report. No written material was provided to the licensee by the resident inspectors during this reporting period. The licensee did not identify as proprietary any of the materials provided to or reviewed by the resident inspectors during the inspection. During this exit interview, the scope and findings of the inspection were summarized.