

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report Nos. 50-445/91-37; 50-446/91-37

License No. NPF-87

Construction Permit No. CPPR-127

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

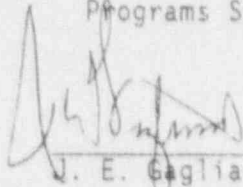
Facility Name: Comanche Peak Steam Electric Station (CPSES), Units 1 and 2

Inspection At: CPSES, Glen Rose, Somervell County, Texas

Inspection Conducted: August 12-21, 1991

Inspector: D. R. Hunter, Senior Reactor Inspector, Operational
Programs Section, Division of Reactor Safety

Approved:



J. E. Gagliardo, Chief, Operational Programs
Section, Division of Reactor Safety

9/20/91
Date

Inspection Summary

Inspection Conducted August 12-21, 1991 (Report No 50-445/91-37)

Areas Inspected: Routine, announced inspection of the self-assessment and corrective action processes, followup of licensee event reports (LERs), and the followup of actions taken regarding a previously identified inspection item.

Results: Within the three areas inspected, no violations or deviations were identified. The licensee's self-assessment and corrective action process was sound and effective. Concerns were identified regarding management's need to ensure aggressive pursuit of identified conditions adverse to quality, emphasizing the attention to details, and the need to ensure the QA audits of corrective actions include a sample of all systems which are part of the licensor's corrective action process (e.g., technical evaluations, temporary modifications, etc.).

Inspection Conducted August 12-21, 1991 (Report No 50-446/91-37)

No inspection was performed of Unit 2 activities.

DETAILS

1. PERSONS CONTACTED

TU ELECTRIC

- *G. Bell, Senior Licensing Engineer
- *L. Stendebach, Senior Engineer
- *R. Baker, Licensing Compliance Engineer
- J. Billerbeck, IST Coordinator
- *E. Schmitt, Surveillance Manager
- F. Sutherland, Operations Surveillance Coordinator
- *M. Blevins, Manager, Nuclear Operations Support
- *J. LaMarca, Manager, Technical Programs
- T. Jenkins, System Engineering Manager
- *D. Moore, Manager, Work Control
- J. Ayers, Operations QA Manager
- *A. Saunders, Assessment Manager
- J. Smith, Administrative Assistant to Plant Manager
- *J. Barker, Manager, ISEG
- O. Bhatti, Site Licensing Engineer
- *A. Scott, Vice President, Nuclear Operations
- *W. Cahill, Executive Vice President
- L. Strobe, Senior QA Specialist
- *D. McAfee, Manager, QA
- *J. Gallman, Manager, Trend Analysis
- H. Haby, Plant Engineering, BOP Systems
- *D. Palmer, Event Analysis Manager
- *D. Davis, Manager, Plant Analysis
- *R. Adams, I&C Maintenance Engineering Supervisor

CASE

- *O. Thero, Consultant for Case

NRC

- *D. Hunter, Senior Reactor Inspector
- *J. Gagliardo, Chief, Operational Programs Section
- *R. Latta, Senior Resident Inspector, Unit 2

The inspectors also interviewed other licensee personnel during this inspection.

*Denotes attendance at the exit interview conducted on August 21, 1991.

2. ACTIONS ON PREVIOUSLY IDENTIFIED INSPECTION FINDINGS (92701)

(Closed) Inspector Followup Item (445/9027-0i): Review Changes to the Root Cause Analysis Program

This issue concerned the adequacy of the licensee's root cause analysis (RCA) documentation to include identification of the techniques used and the actions applied to problem analysis. The matter was reviewed and documented during NRC Inspection Report 50-445/91-15; 50-446/91-15 and it was noted that the item was completed with exception of the revision to several procedures to resolve the matter.

The inspector reviewed Procedure STA-422, "Processing of Operations Notification and Evaluation (ONE) Forms," Revision 5; Attachments 8A & 8B; and the referenced forms which had been revised and were effective on July 31, 1991. The procedures and forms were reviewed by the station operations review committee (SORC) on July 24, 1991, Meeting No. 91-055.

The inspector had no further questions regarding this matter and this item is considered closed.

3. FOLLOWUP OF LICENSEE EVENT REPORTS (92700)

The following LERs were reviewed to verify that the specified corrective actions had been completed and were adequate.

3.1 (Closed) LER 90-010; "Missed Special Condition Surveillance on Squaw Creek Reservoir Water Level Due to Personal Error"

The licensee reported that the 2-hour surveillance of the reservoir water level at elevation 776 feet was missed on two occasions.

Document review and personnel interviews revealed that the licensee had discussed the event with personnel, revised shift turnover log sheets, and revised plant procedures to address specific and general surveillance requirements.

Additionally, the inspector noted that the licensee had reviewed the special condition Technical Specification surveillances to ensure that the items were adequately addressed and documented. The review resulted in a number of procedure and checklist revisions to enhance the program.

The inspector had no further questions regarding this matter, and the event is considered closed.

3.2 (Closed) LER 90-026, "Missed Surveillance Due to Inadequate Procedural Requirements"

The licensee reported that the special, 46-day increased frequency surveillance test for the residual heat removal pump (RHRP-01) was missed by 2 days. Document review and personnel interviews revealed that the licensee had

completed the actions documented in the LER to improve the method for scheduling and providing the status of special surveillance activities.

The inspector found a 2-week time delay (June 15 through July 2, 1990) between the test performance date and the date when the test data was reviewed and the "ALERT" condition was declared. This delay in the review of the event led to additional reviews of the licensee's event review process which is discussed in more detail in paragraph 4.1 of this report.

The inspector had no further questions regarding the matter and the event is considered closed.

3.3 (Closed) LER 90-043, "Containment Penetration Not Properly Isolated Due to Cognitive Personnel Error"

The licensee reported that troubleshooting activities were performed on a containment isolation valve (1-HV-5560) which included the stroking of the valve. The associated containment isolation valve (1-HV-5561) had not been secured; however, when the licensee discovered the error, the work was stopped and a clearance (tagging) order was issued for Valve 1-HV-5561. The containment isolation valve (1-HV-5560) was declared operable and returned to service about 5 hours later.

The inspector had questions regarding the review and availability of the supporting documentation for this event and the fact that a single clearance order was used to address workman protection as well as license requirements. This issue is discussed in more detail in Paragraph 4.1 of this report.

The inspector had no further questions regarding this matter and the event is considered closed.

3.4 (Closed) LER 91-005, "Inadvertent Automatic Start of Turbine Driven Auxiliary Feedwater Pump Due to Personnel Error"

The licensee reported that the turbine driven auxiliary feedwater pump was started when test leads were shorted together.

Document review and interviews revealed that the corrective actions for the event included personnel training, familiarization with the event, and review of self-checking expectations.

The inspector had no further questions regarding this matter and the event is considered closed.

No violations or deviations were identified during the review of these items.

4. EVALUATION OF LICENSEE SELF-ASSESSMENT AND CORRECTIVE ACTION CAPABILITY (40500 AND 92720)

The objective of this performance-based inspection effort was to determine the effectiveness of the licensee's self-assessment capabilities and corrective

actions associated with identified problems. The inspectors reviewed selected problems or issues, which had been identified and dispositioned by the licensee, in order to evaluate the processes used for assessing plant problems that could impact on plant safety.

The selected problems or issues included licensee event reports (LERs) and the associated incident reports. The inspectors also reviewed other information including recent reactor post-trip reviews plus QA and oversight group reports.

Each of the problems or issues selected was evaluated against the following criteria:

- (1) Identification: The identification of the problem was at an appropriate level.
- (2) Evaluations: The evaluations of the problem included determinations of plant safety, operability, generic implications, causal linkage, and reportability. The evaluation also included a root cause analysis, if appropriate.
- (3) Actions Taken: The corrective actions taken were timely, had been verified, and had been tested. The problem and its correction was trended by cause, timeliness, and area of responsibility; and the problem was reported to management for their actions and oversight.
- (4) Oversight: The oversight function for each type of problem included the appropriate tracking through closure, periodic review by management, and periodic audit of the process.
- (5) Expectations: The responsibilities of employees at all levels had been defined for the corrective action process and appropriate training had been provided.

The reports, controlling procedures, QA audits, and other documents reviewed are listed in the attachment to this report.

4.1 License Event Reports (LERs)

The inspector reviewed selected LERs, including those in Section 3 of this report, to determine that the adverse condition had been appropriately classified and the root cause and corrective actions to prevent recurrence were appropriate and adequately documented.

The LERs were developed as an integral product of the corrective action process. The reportable events were originally identified as a significant condition and a plant incident report (PIR), including a specific root cause analysis, was prepared for the event. The LERs were reviewed routinely by plant management and overview groups. The station operations review committee (SORC) specifically reviewed each LER including the associated PIR prior to submittal to the NRC. The offsite review committee (ORC) also reviewed the completed LERs.

Three of the LERs (90-024, 90-026, and 91-017) reviewed identified deficiencies in the overall program, procedures, and practices regarding the manual scheduling of surveillance activities (special and staggered TS tests). The repeat of these events indicated a minor weakness in the overall aggressiveness and pursuit of corrective actions associated with the identified conditions adverse to quality. LER 90-024 occurred on August 24, 1990, and involved a personnel error, but the specified corrective actions had only recently been completed. A similar event, LER 91-017, involving a personal error, occurred on April 29, 1991. These events indicated a lack of attention to details regarding the self-assessment and corrective action processes which should have prevented the later LER.

Section 3.2, of LER 90-026, indicated that a 2-week time delay had occurred between the residual heat removal pump surveillance test performance and test data review by the IST coordinator. The review of the test data resulted in the pump being declared in the "ALERT" condition. The licensee had not identified this late review practice or the failure of the data taker to note the deficiency as a potential condition adverse to quality.

Management was monitoring the post-review of the overall work order process; however, the established acceptance criterion for the post-review process was 60 days from the activity (maintenance or testing) completion date until the completed documentation package was placed in the records vault. The controlling procedure also specified that surveillance work order (SWO) packages "should" be placed in the records vault within 7 days of completion. In July 1991, 16 work order packages had exceeded the 60-day criteria.

Thirty-two inservice testing surveillance work orders (SWO) had been in the post-review process for greater than 7 days. Eight of the SWOs had been in the post-review process for greater than 60 days, and two of the eight SWOs (completed on February 11, 1991) could not be located. The inspector reviewed the matter with licensee representatives and noted that the test data contained in the missing SWOs, had been reviewed and recorded and that subsequent tests were acceptable. Licensee representatives were evaluating the matter of the missing SWOs at the conclusion of the inspection.

The licensee initiated a corrective action document (FX 91-915, dated August 16, 1991) documenting the IST SWOs that were in the post-review process for greater than 7 days. A review of the open SWOs disclosed that none of them identified conditions that required the performance of increased surveillance activities. The inspector had no further questions regarding this matter, but the failure to review the completed IST SWOs in a timely manner to assure prompt management attention, tracking, and trending was considered to be a program weakness. This matter was discussed with licensee representative who stated that the practices would be reviewed.

The inspector identified two minor questions during the review of LER 90-043. The questions involved the review and availability of supporting documentation (clearance order) and the use of the single work order to address both workman protection and the license requirements. The licensee's clearance practices necessitated the removal of a number of the clearance tags at the completion of

the maintenance activities to perform post-maintenance testing, followed by the removal of the remainder of the clearance tags after the component had been declared "OPERABLE." It was not apparent to the inspector that this type of clearance control was addressed by the procedures and was being adequately documented.

No violations or deviations of regulatory requirements were identified, and specific corrective action documents were initiated by the licensee to address the items identified by the inspector.

4.2 QA Audits - Corrective Actions

The inspector reviewed the three most recently completed QA audits of actions to correct identified deficiencies and selected audit findings resulting from the audits. The inspector also reviewed a supplemental QA audit regarding system and component labeling and the last two annual joint utility management audits of QA which were conducted in May 1990 and February 1991.

In the past, QA had identified that the technical evaluation process had been used for identifying adverse conditions, rather than initiating a corrective action document (ONE Form) in accordance with the program and procedure requirements. The inspector found that at the time of this inspection the causes had been identified and corrective actions were implemented, including program and procedure upgrade and staff training. Furthermore, the licensee completed a technical evaluation review effort in September 1990 to ensure that identified adverse conditions were being adequately addressed.

The inspector noted that the completed audits and assessments and associated corrective actions appeared to be effective.

4.3 Reactor Post-Trip Review Reports

The inspector reviewed two recent post-trip review reports. The reactor post-trip review packages were included as an integral part of the licensee adverse condition identification, evaluation, and corrective action report (ONE Form) process.

The inspector noted that the completed reports were comprehensive and complete.

4.4 Independent Safety Engineering Group (ISEG)

The inspector reviewed the ISEG activities to assess the ISEG review practices and the dispositioning of ISEG findings.

The ISEG had implemented an aggressive program for monitoring plant activities and provided management with current information regarding the operation of the facility. The group activities included special assessments of plant activities such as integrated design activities, secondary plant reliability studies (followups), outage risk assessments, and reactor trip reviews.

The inspector noted that the ISEG activities reviewed were detailed and technically sound. ISEG recommendations and status summaries were provided to management routinely in a monthly summary report.

No violations or deviations were identified during the review of this area.

4.5 Conclusion

The licensee's overall self-assessment and corrective action process were determined to be sound and effective. The items of concern identified by the inspector indicate areas in which enhancement of the programs may be warranted to improve the evaluations of conditions adverse to quality and the pursuit of the corrective actions to prevent recurrence.

5. EXIT INTERVIEW

The inspector met with the licensee representatives denoted in paragraph 1 on August 21, 1991, and summarized the scope and findings of this inspection. The licensee did not identify, as proprietary, any of the material provided to, or received by, the inspector during this inspection.

ATTACHMENT

Documents Reviewed

Procedures

- STA-401, "Station Operations Review Committee," Revision 16
- STA-422, "Processing of Operations Notification and Evaluation (ONE) Forms,"
Revision 5
- STA-504, "Technical Evaluation," Revision 8
- STA-515, "Root Cause Analysis," Revision 2
- STA-606, "Work Request and Work Orders," Revision 16
- STA-702, "Surveillance Program," Revision 9
- STA-711, "ASME Section XI Pump and Valve Inservice Testing," Revision 3
- Operations Review Committee (ORC) Manual
- IPO-003A, "Power Operations," Revision 5
- IPO-004A, "Plant Shutdown From Minimum Load to Hot Standby," Revision 5
- ABN-304A, "Main Condenser and Circulatory Water System Malfunction," Revision 2
- ABN-302A, "Feedwater, Condensate, Heater Drain System Malfunction," Revision 2
- ALM-0065A, "Alarm Procedure 1-PICP," Revision 2
- ABN-907A, "Acts of Nature," Revision 2
- OPT-102A 07, "Local Shiftly Surveillance," Revision 5
- OPT-206A, "Auxiliary Feedwater System Operability Test," Revision 5

Quality Assurance Audits

- QAA-91-104, "Nonconformance and Corrective Action Program" (January through
February 1991)
- QAA-90-034, "Nonconformance and Corrective Action Programs" (January through
February 1990)
- QAA-90-001, "Nonconformance Item Control and Corrective Action Programs"
(January through February 1990)
- QAA-91-122, "System and Component Labeling-Supplemental Audit" (April 1991)

Annual Joint Utility Management Audit (JUMA) Assessment of Quality Assurance
Audit Programs

JUMA 90-01 (May 1990)

JUMA 91-01 (February-March 1991)

Licensee Event Reports (LERs)

LER 90-010, "Missed Special Condition Surveillances on Squaw Creek Reservoir Waste Level Due to Personnel Error"

LER 90-026, "Missed Surveillance Due to Inadequate Procedural Requirements"

LER 90-043, "Containment Penetration Not Properly Isolated Due to Cognitive Personnel Error"

LER 91-005, "Inadvertent Start of Turbine Driver Auxiliary Feedwater Pump Due to Personnel Error"

LER 91-009, "Automatic Isolation of Steam Generator Blowdown on Lo Lo Due to Cognitive Personnel Error"

LER 91-011, "Oversight in Preparation of a Temporary Modification Resulted in the Failure to Fully Satisfy Technical Specification Surveillance Requirement"

LER 91-017, "Failure to Satisfy Staggered Test Basis Requirement for Hydrogen Monitors"

LER 90-024, "Personnel Error Resulting in Failure to Satisfy Technical Specification Staggered Test Basis Requirement"

Reactor Trips

LER 91-004, "Reactor Trip Caused by Personnel Error and Insufficient Labeling of Sensitive Equipment"

LER 91-008, "Reactor Trip Caused by Personnel Error During Testing"

Station Operations Review Committee Meeting Minutes

91-047, June 12, 1991

91-048, June 19, 1991

91-049, June 21, 1991 (Special)

91-050, June 26, 1991

91-051, July 3, 1991

91-052, July 8, 1991 (Special)

Operations Review Committee Meeting Minutes

91-01, February 21-22, 1991

91-02, April 10-11, 1991

91-03, June 18-19, 1991

Miscellaneous

Plant Performance Overview Report - April through June 1991

Technical Evaluation Review Team Report, September 26, 1990

ONE Form FX 90-1139 (LER 90-002), "Reactor Trip and Flux Doubling
Actuation Due to Inverter Failure"

ONE Form FX 90-2132 (LER 90-027), "Manual Reactor Trip Due to Shearing of
Feedwater Flow Control Valve Feedback Linkage Arm"