

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-445/85-06

Permit: CPPR-126:

Docket: 50-445

Category: A2

Applicant: Texas Utilities Electric Company (TUEC)  
Skyway Tower  
400 North Olive Street  
Lock Box 81  
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES) Unit 1

Inspection At: Glen Rose, Texas

Inspection Conducted: March 1 - April 30, 1985

Inspectors:

*[Signature]*  
D. L. Kelley, Senior Resident Reactor  
Inspector (SRRI)

*5/29/85*  
Date

*[Signature]*  
W. F. Smith, Resident Reactor Inspector  
(RRI)

*5/29/85*  
Date

Approved:

*[Signature]*  
D. M. Hunnicutt, Section Chief,  
Reactor Project Section B

*5/29/85*  
Date

Inspection Summary

Inspection Conducted: March 1 - April 30, 1985 (Report 50-445/85-06)

Areas Inspected: Routine, unannounced inspection of (1) Preoperational Test  
Results Evaluation; (2) Independent Inspection Findings; (3) Followup on Open

DETAILS

1. Persons Contacted

Applicant Personnel

- \*B. R. Clements, Vice President, Nuclear Operations
- \*J. C. Kuykendall, Manager, Nuclear Operations
- \*C. H. Welch, Site Quality Assurance (QA) Supervisor
- \*J. C. Smith, QA
- \*R. B. Seidel, Operations Superintendent
- \*H. A. Lancaster, Startup QA Specialist
- \*J. M. Ward, Startup QA Specialist
- \*R. R. Wistrand, Administration Superintendent
- \*R. A. Jones, Manager, Plant Operations
- \*T. Gosdin, Support Services Superintendent
- \*D. W. Braswell, Engineering Superintendent
- \*G. D. Smith, Startup Manager
- \*M. R. Blevins, Maintenance Superintendent
- \*D. E. Deviney, Operations QA Supervisor

\*Denotes those present at exit interview.

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

2. Preoperational Test Results Evaluation

The NRC resident inspectors conducted an inspection of preoperational test data packages which had been completed, approved by the Joint Test Group (JTG), and placed in the station permanent records storage facility. The objectives of this inspection were to:

- o Assure that the applicant is performing an adequate evaluation of test results;
- o Assure that all test data are either within previously established acceptance criteria, or that deviations are properly dispositioned;
- o Evaluate the adequacy of the applicant's methods for correcting deficiencies and for retesting, if necessary;
- o Evaluate the adequacy of the applicant's administrative practices in maintaining proper test discipline concerning test execution, test alteration, and test records; and

- o Verify that the applicant is following his procedures for review, evaluation, and acceptance of test results.

The inspection of each preoperational test package consisted of:

- o A review of all test changes to verify that, (1) each change was approved in accordance with pertinent administrative procedures; (2) the procedure was annotated to identify test changes; (3) the test change had been completed if it entailed specific actions; and (4) none of the changes altered the basic objectives of the test.
- o A review of all test deficiencies to verify that, (1) each had been resolved, that the resolution had been accepted by appropriate management and the JTG, and that retest requirements had been completed; (2) any system or process changes necessitated by a test deficiency were properly documented and reviewed.
- o A review of the test summary and evaluation to ensure that, (1) the System Test Engineer (STE) evaluated the test results and signified that the testing demonstrated that the system met design requirements; (2) the applicant specifically compared test results with established acceptance criteria.
- o A review of the "official test copy" of the test procedure to verify that, (1) data sheets had been completed (10% minimum sample); (2) all data were recorded, where required, and were within acceptance tolerances (10% minimum sample); (3) all test deficiencies identified were noted and had received appropriate reviews and evaluations; and (4) individual test steps and data sheets have been properly signed and dated.
- o A review of QA involvement to verify that, (1) QA/QC witness and hold points were observed where called for; (2) preoperational test packages were audited as required by administrative procedures.
- o Verification that the test results have been approved by the applicant's JTG and that the review and approval is documented as required by administrative procedures.
- a. The following completed preoperational test data packages were reviewed by the NRC inspectors, with no comments, and have met the inspection attributes listed above:
  - (1) ICP-PT-64-02, "Reactor Protection System," Revision 0.
  - (2) ICP-PT-64-02, RT-1, "Reactor Protection System - Retest 1," Revision 0.

- (3) ICP-PT-64-02, RT-2, "Reactor Protection System - Retest 2," Revision 0.
- (4) ICP-PT-64-04, "Reactor Plant System Setpoint Verification," Revision 0.
- (5) ICP-PT-37-01, "Auxiliary Feedwater System (Motor Driven)," Revision 0.
- (6) ICP-PT-37-01, RT-1, "Auxiliary Feed Water System (Motor Driven) Retest-1," Revision 0.
- (7) ICP-PT-37-03, "Auxiliary Feedwater Turbine Driven Pump," Revision 0.
- (8) ICP-PT-37-03, Redo, "Auxiliary Feedwater Turbine Driven Pump Redo," Revision 0.
- (9) ICP-PT-02-12, RT 1, "Bus Voltage and Load Survey, Retest-1," Revision 0 (phase I & II).

b. The following completed preoperational test data packages were reviewed by the NRC resident inspectors, and have met the inspection attributes listed above, except as described in the following comments:

- (1) ICP-PT-34-01, "Main Steam Isolation Valves" (MSIV), Revision 1.

The NRC inspector noted that only MSIV control circuit operability had been successfully tested by this procedure. The procedure was originally intended for operationally testing the valves as well as the control circuits; however, due to extensive failures and repairs, it was necessary to defer the testing of the MSIVs and MSIV bypasses (MSIVBV) from the preoperational test program to the initial startup (ISU) program.

During a second hot functional test sequence conducted in November and December 1984, the MSIVs were successfully tested in accordance with ISU-234A, "Main Steam Isolation Valves Operability and Response Times." The MSIVBVs continued to have problems with the electro-hydraulic valve operator, resulting in a decision to place manual operators on the MSIVBVs and to implement the appropriate procedure changes what will be necessary to support manually operated MSIVBVs. Final NRC acceptance of this test will be contingent upon a satisfactory review of the completed Initial Startup Test package for ISU-234A. This package will be inspected under the startup

testing phase of the NRC light water reactor inspection program (Inspection and Enforcement Manual Chapter 2514). This is an Open Item 445/8506-01.

(2) ICP-PT-64-01, "RPS Time Response Measurement," Revision 2.

Test Deficiency Report (TDR) 3799 was filed in the completed test package with no corrective action specified and no evidence that it had been closed. The TDR was not addressed in the test summary as an open TDR. The subject was opening times of containment spray valves 1-HV-4776 and 1-HV-4777. It appeared that the valves were designed to open in less than 20 seconds. The containment spray system design assumes it will be more than 117 seconds to preclude pump run-out. According to the applicant's representatives, this problem was discovered during the analysis of ICP-PT-64-01 data, but had no bearing on the outcome of the test because the time responses of ICP-PT-64-01 do not include actual valve operating time. The practice of having an open TDR in a completed test data package without a JTG approved disposition does not meet the NRC inspection criteria above. This is Open Item 445/8506-02.

Test Procedure Deviation (TPD) No. 18 changed two prerequisites from lifting of leads to jumpering of contacts to prevent valve 1-HV-4168 from cycling during the test because a set of contacts in the control circuit needed to remain closed (simulated by jumper) rather than remain open (which would be simulated by lifting leads). The "Reason for change" indicated, "Change prerequisite to prevent cycling of valve 1-HV-4168," instead of indicating why, which was to correct a procedure error. In NRC Inspection Report 50-445/85-02, the RRI commented that inaccurately stated reasons for changes is a widespread problem. This is another example. The applicant's action to correct this problem is already being tracked under Open Item 445/8502-02.

No violations or deviations were identified.

As of this inspection, the preoperational testing phase of the NRC Light Water Reactor Inspection Program, Inspection and Enforcement Manual Chapter 2513 is completed, with exception of any retests that may be performed as a result of Technical Review Team findings, or of dispositioning previous preoperational test inspection findings.

3. Independent Inspection Findings

a. Deficiency Report Review

The RRI selected, at random, an operations Deficiency Report (DR) to verify that appropriate corrective actions were being taken by TUGCO operations management. The DR selected was DR 85-012, which pertained to replacement of a failed shaft seal on No. 2 Reactor Coolant (RC) pump in accordance with Maintenance Action Request (MAR) 85-0292,

which in turn implemented Mechanical Maintenance Instruction (MMI) 302, "Reactor Coolant Pump Seal Inspection."

Revision 1 of MAR-85-0292 stated, "Steps of this procedure (MMI-302) may be worked out of sequence as long as the integrity of the job is not affected." According to the DR, the mechanics performed MMI-302, steps 5.2.7.11 before 5.2.7.9, and 5.2.7.8 after 5.2.7.9. This resulted in damage to the lower seals, and particles from the broken seal dropping into the upper RC pump housing.

The recovery actions as documented on the DR appeared to be inadequate for the circumstances. Under "Corrective Action" the Maintenance Engineer simply stated that the No. 1 lower seal ring will be replaced in accordance with MMI-302, paragraph 5.4.2. Under "Preventive Action" the same engineer indicated, "Applicable maintenance personnel will be instructed in the importance of working instructions in sequence. This review will be documented in accordance with MDA-106." The RRI noted the following specific problems with this scenario and the associated documentation:

- (1) MAR-85-0292 was changed to allow deviations from MMI-302 without an approved change as required by Section 4.5.3 of MDA-201. One of the causes of the deficiency was failure of the people who approved the change to recognize this. The disposition entered on DR 85-012 failed to address corrective actions to prevent recurrences of such improper reviews, which is in violation of Section 4.7 of STA-404, "Control of Deficiencies."
- (2) DR 85-012 was initiated on 1/24/85. The QC inspector on the job verified cleanness of the RC pump annulus using fibre optics on January 31, 1985. There was no documentation showing what procedure, if any, was used to remove the broken seal ring to preclude further damage or breaches of RC system cleanliness. Failure to provide such a procedure is contrary to the requirements of 10 CFR 50, Appendix B, Criterion V, and Section 13.1 of the applicant's Operations Administrative Control and Quality Assurance Plan.
- (3) Maintenance Department Administrative Procedure MDA-201, "Electrical and Mechanical Maintenance Procedures and Instructions," prescribes the formatting and revision control of instructions such as MMI-302. Step 4.3.7.3 of MDA-201 appears to leave it at the option of procedure writer to number the steps and the exact sequence of performing the maintenance, and that if the exact sequence is not essential, the writer has the option to so state. On the other hand, step 4.5.3 requires a change to the procedure if the sequence of steps within a section or subsection must be changed. When the NRC inspector began to probe the details associated with DR 85-012, the applicant recognized this problem and documented it on DR 85-078.

- (4) The NRC inspector noted that DR 85-012 was reviewed by Maintenance Department Personnel in accordance with MDA-106, "Document Review." One objective of this procedure is to disseminate lessons learned to other personnel such that they may learn from the experience of others. The DR was only disseminated to the two mechanics who experienced the problem in the first place.

In summary, documentation made available to the NRC inspector indicates a failure on the part of the applicant to provide and or follow procedures in accordance with 10 CFR Part 50, Appendix B, Criterion V, and Section 13.1 of the Operations Administrative Control Plan. The Operations QA Program failed to ensure the adequacy of corrective actions. The dissemination of lessons learned to the appropriate personnel is considered an open item. This is Open Item 445/8506-04.

This is (Open) violation 445/8506-03.

b. Fuel Storage Inspection/Fuel Inventory

During this reporting period the NRC inspectors performed an inspection of the fuel storage facilities and an inventory of the Unit 1, Cycle 1 fuel and associated fuel bundle inserts.

The storage facility inspection consisted of:

- o Verification of security and access control,
- o Verification of the cleanliness of the area,
- o Verification of the cleanliness of each fuel element and storage cell and,
- o Verification of the radiological controls.

The fuel inventory consisted of:

- o Verification that each fuel assembly and insert were accounted for,
- o Verification that each fuel assembly and its insert were in their assigned storage cell and,
- o Verification that each assembly and its insert, when moved from one location to another, were logged on a transfer sheet.

The fuel storage areas (both the new fuel storage and spent fuel storage) were examined by the NRC inspectors. The areas were found to be clean and free of foreign material, required radiological controls were in effect, and the required security provisions were implemented.

The NRC inspectors also performed an inventory of all Unit 1, Cycle 1 nuclear fuel and fuel element inserts. The inventory was performed by conducting a "blind" accountability audit (i.e., a blank storage map was used to record the contents of each storage cell in the new fuel and spent fuel storage area). The filled in maps were then compared to the applicant's records identifying the assigned storage cell and its contents. In addition, for each fuel movement since receipt, the fuel transfer documents were examined. The inspectors found that each fuel element and its insert was in its assigned location and each fuel assembly movement was recorded on the required transfer documents.

No violations or deviations were identified.

4. Followup on Open Items

TMI Action Plan Item

Item II.E.1.1 required verification by test, that the turbine driven auxiliary feed pump could operate a minimum of 2 hours without AC power.

During the performance of 1CP-PT-37-03, Revision 0, "Auxiliary Feedwater Turbine Driven Pump", the pump was run for 2 hours with no AC power, as part of the 48-hour run. During this 2-hour run there was no ventilation to the room and the ventilation dampers were shut. The temperature and humidity requirements of the 2-hour portion of the test were 104°F and 70%. The final temperature and humidity were 107.7°F and 100% humidity. Gibbs and Hill analyzed the deviation and concluded in GTN-65740 to use as is. Since the conditions were more severe than the test criteria, the intent of the test was not lessened. The NRC inspector concludes that the 2-hour test has met the requirements of Item II.E.1.1.

This item is closed.

5. Plant Tours

During this reporting period, the SRRI and RRI conducted several inspection tours of Unit 1. In addition to the general housekeeping activities and general cleanliness of the facility, specific attention was given to areas where safety-related equipment was installed and where activities were in progress involving safety-related equipment. These areas were inspected to ensure that:

- o Work in progress was being accomplished using approved procedures.
- o Special precautions for protection of equipment were implemented, and additional cleanliness, requirements were being adhered to for maintenance, flushing, and welding activities.
- o Installed safety-related equipment and components were being protected and maintained to prevent damage and deterioration.

Also during these tours, the SRRI and RRI reviewed the control room and shift supervisors' log book. Key items in the log review were:

- o plant status
- o changes in plant status
- o tests in progress
- o documentation of problems which arise during operating shifts

No deviations or violations were identified.

6. Plant Status as of April 30, 1985

- a. Unit 1 is 99% complete with 323 of 332 subsystems turned over to operations custody. "Custody" means having immediate authority and responsibility for operational control of system or equipment.

The applicant has accepted 305 of 332 subsystems for final acceptance.

- b. Of the 199 preoperational tests, one is not yet completed on field testing, and 27 are pending review and approval of completed data. There are no further tests requiring NRC results evaluation review.

- c. The following items related to NRC resident operations office findings are open pending applicant action and NRC followup inspection to confirm completion for closure:

Violations	11
Deviations	0
Open Items	99
Unresolved	<u>7</u>
Total	117

Action is underway to complete these items. Closure will be documented in future inspection reports.

- d. Unit 2 is 73% complete. The preoperational test program on systems associated with NRC inspections has not yet started.

7. Exit Meeting

An exit interview was conducted May 2, 1985, with applicant representatives identified in paragraph 1. During this interview, the SRRI reviewed the scope and discussed the inspection findings. The applicant acknowledged the findings.