

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/84-39

CP: CPPR-126

Docket: 50-445

Licensee: 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: October 1-31, 1984

Inspectors:

b m Hunnicutt
for D. L. Kelley, Senior Resident Inspector (SRII)
(pars. 1, 4, 5, and 6)

1/14/85
Date

Approved:

b m Hunnicutt
D. M. Hunnicutt, Section Chief, Reactor
Project Section B

1/14/85
Date

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Inspection Summary

Inspection Conducted October 1-31, 1984 (Report No. 50-445/84-39)

Areas Inspected: Routine, unannounced inspection consisting of (1) Review of System Operating Procedures (SOP), (2) Review of Initial Startup Administrative procedures (ISA) and test procedures (ISU) intended for use during the recently scheduled second hot functional test prior to fueling, (3) plant tours, and (4) plant status. The inspection involved 89 inspector-hours onsite by two NRC inspectors and one person under contract with the NRC.

Results: Within the areas inspected, no violations or deviations were identified. Seven open items were identified in paragraphs 2 and 3 of this report and will require closure by the NRC inspectors once the actions have been completed by the licensee and a followup inspection has been completed.

DETAILS

1. Persons Contacted

Licensee Personnel

*B. R. Clements, Vice President, Nuclear Operations
*J. C. Kuykendall, Manager, Nuclear Operations
*R. A. Jones, Manager, Plant Operations
*J. T. Merritt, Assistant Project General Manager
*D. E. Deviney, Operations Quality Assurance Supervisor
C. H. Welch, Quality Assurance Supervisor
*J. C. Smith, Quality Assurance
*R. B. Seidel, Operations Superintendent
*H. A. Lancaster, Startup Quality Assurance Specialist
J. H. Ward, Startup Quality Assurance Specialist
*R. E. Camp, Startup Manager
J. C. Zimmerman, Initial Startup Coordinator
S. M. Franks, Special Project and Technical Support Lead
L. A. Porter, Initial Startup Engineer
R. R. Wistrand, Administration Superintendent
D. B. Allen, Initial Startup Test Coordinator
J. J. Allen, Operations Engineer
B. J. Browning, Thermal Expansion Test Engineer
*T. Miller, Lead Startup Engineer

*Denotes those present at exit interview.

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

2. Review of System Operating Procedures (SOP)

A review was conducted by the inspector under contract with the NRC to confirm that plant operating procedures were prepared to adequately control safety-related operations within the applicable regulatory requirements. Selected procedures, listed below, were reviewed to determine that the important safety requirements were satisfied and that the procedures contained the necessary prerequisites, precautions, limitations, and checklists. Complete step-by-step evaluations of adequacy were not made, nor did the review include verification of correct identification, positioning, or sequencing in valve and circuit breaker checklists. The review verified that provisions were made to fill, drain, vent, startup, shutdown, change from one operating mode to another, and identify abnormal conditions.

The following SOPs were reviewed by the NRC contract representative:

SOP-101A, Revision 1, "Reactor Coolant System"

SOP-103A, Revision 1, "Chemical Volume and Control System"
SOP-201A, Revision 1, "Safety Injection System"

SOP-204A, Revision 1, "Containment Spray System"

SOP-301A, Revision 1, "Main Steam System"

SOP-304A, Revision 2, "Auxiliary Feedwater System"

SOP-501A, Revision 1, "Station Service Water System"

SOP-502A, Revision 1, "Component Cooling Water System"

SOP-506A, Revision 1, "Spent Fuel Pool Cooling and Cleaning System"

SOP-605A, Revision 3, "125VDC Switchgear and Distribution System and
Batteries and Battery Chargers"

SOP-609A, Revision 1, "Diesel Generator System"

SOP-703, Revision 1, "Excore Instrumentation System"

SOP-801A, Revision 1, "Containment Ventilation System"

During the course of the NRC review of the above documents, some were already in a rewrite status, which resolved some of the questions and comments.

The following specific comments remain open based on the RRI's review:

a. SOP-101A:

Prerequisite step 2.1.2 required a valve lineup per Attachment 1 of the procedure in order to accomplish Reactor Coolant System (RCS) fill and venting. The valve lineup required 1RC-0035 (Reactor head vent) to be shut. Procedural step 5.1.5 instructed the operator to shut 1RC-0035, but there were no previous instructions to open the valve, thus the step cannot be performed as written. In addition, the temporary valves (T-1 and T-2) shown on Attachment 5, which connected the reactor head vent temporary hose to the pressurized relief tank were not addressed in the valve lineup of Attachment 1. This is an open item pending further review during a subsequent inspection. (445/8439-01)

b. SOP-103A:

A procedure review and comment sheet submitted by one of the licensee's reviewers contained a list of valves with a "1CS-" prefix which had a "1-" prefix on the system diagrams. This discrepancy was resolved by changing the diagrams and valve identification tags in the plant. The RRI noted in the case of the Chemical Volume and Control System (CVCS), the diagrams had a mix of "1CS-" and "1-" prefixes. This will require further NRC review and followup with the drawings and with the actual valves in the plant. This is an open item pending further review during a subsequent inspection. (445/8439-02)

c. SOP-501A:

Section 5.4 of the procedure and section 2.0 of the Attachment 1 valve lineup, contained valve numbers which were not included on Flow Diagram 2323-MI-0233, Revision CP-6, "Station Service Water System." The diagram has the schematic on the chlorination system, which has been in service for some time, but the valves were not identified by number such that they correlated with the valve lineup in Attachment 1. The NRC inspector was informed that a program was already underway to ensure the system schematics agreed with the operating procedures. The addition of valve numbers to the chlorination section of drawing 2323-MI-0233 is an open item pending further review during a subsequent inspection (445/8439-03).

d. SOP-609A:

The contract inspector noted that in the 17 places that the Auxiliary Lube Oil Pump was mentioned, it was referred to as either the "Auxiliary Oil Pump," "Auxiliary Lube Oil Pump," or "Auxiliary Oil Lube Pump." Although this did not appear to be a safety-significant problem, the procedure should be consistent with control room nomenclature from a human factor standpoint. The licensee committed to correct this inconsistency in the next revision. This matter is considered an open item pending further review during a subsequent inspection. (445/8439-04)

In Section 5.3.2 of the procedure, the steps to perform a local normal shutdown of the emergency diesel generator included a requirement to lower the KVAR (reactive power) to approximately zero before opening the output breakers. Section 5.3.1, which performed the same normal shutdown from the remote location (Main Control Board), did not include this requirement. The licensee committed to revise step 5.3.1 to include the reduction in the reactive load.

This is open item pending further review during a subsequent inspection. (445/8439-05)

The RRI noted, in general, that the revised SOPs were consistent and much improved over the earlier versions reviewed by the contract NRC inspector. Except as noted above, the procedures satisfied the stated criteria.

No violations or deviations were identified.

3. Review of Initial Startup Test and Administrative Procedures

The licensee elected to conduct a second prefueling Hot Functional Test (HFT) to accomplish those tests and retests that were originally deferred to post-fueling hot plant conditions. The RRI commenced a review of the procedures to be used to control the HFT. Attributes checked included assurance that: (1) the procedures were consistent with regulatory requirements, (2) the procedures contained the necessary administrative controls, (3) the test objectives would be met and properly documented, and (4) adequate Quality Assurance provisions were incorporated as committed in the FSAR, and (5) there were no major technical or editorial errors.

The licensee's operations group (rather than the Startup organization) was to perform the testing. The procedures were issued by the licensee operations group as part of the initial startup program, rather than a continuation of the preoperational test program. The initial startup testing program is the responsibility of the plant operating organization. The test procedures are being written, reviewed, and conducted in accordance with the initial startup program administrative procedures and the operation QA/QC program procedures. The program controls have been reviewed and found to be at a minimum equivalent to the preoperational test program controls. As of the end of October 1984 the following HFT procedures were reviewed by the RRI:

ISA-004, Revision 1, "Conduct of Initial Startup Testing"

ISA-006, Revision 0, "Initial Startup Test Procedure Changes"

ISU-300A, Revision 0, "Pre Fuel Load Initial Startup Test Sequence"

IPO-001A, Revision 1, "Plant Startup From Cold Shutdown to Hot Standby"

IPO-007A, Revision 0, "Maintaining Hot Standby"

ISU-008A, Revision 1, "Thermal Expansion"

The RRI noted that the attributes listed above were satisfactorily met, with exceptions of a few typographical errors. The following specific comments were made:

a. ISA-004:

(1) Section 4.2.6 of this procedure outlined the trial use of test procedures. It stated that some test procedures (referring to Initial Startup Tests) may be user-tested with equipment operation to familiarize personnel with the tests and to ensure the adequacy of the procedures. Further, the copy of the procedure used during a trial use shall be clearly stamped "DRAFT" and may be informally altered to accommodate the special plant configuration and to make procedural corrections. This appeared to imply that the operator could operate the applicable systems by the draft procedures and make informal changes as necessary. This is not consistent with current station administrative requirements and 10 CFR 50, Appendix B, with regard to operating equipment in accordance with approved [procedures] which can only be changed by proper authority. This was discussed with the licensee and, the RRI was told that the trial use of test procedures consisted only of dry runs, and that physical operation of equipment would be accomplished only in accordance with approved procedures. This requirement will be reflected in ISA-004 to ensure that the operators were aware of the limitations of trial procedures. This is an open item pending further review during a subsequent inspection. (445/8439-06)

(2) Section 4.4.2.1 required Quality Assurance (QA) to be notified prior to conducting testing which required QA surveillance. If QA decided to waive the surveillance, the test engineer was only required to record the name of the QA person waiving the surveillance, and then testing could continue. The procedure review requirements prior to implementation provided for QA involvement during the conduct of the test. The recording of the name of the QA person waiving the surveillance without providing a basis does not appear to be adequate. This degradation in QA surveillance and the basis for the degradation needs to be evaluated to ensure that the test integrity will not be compromised. This is an open item pending further review during a subsequent inspection. (445/8439-07)

b. ISA-006:

The RRI suggested that the licensee reconsider the method of entering changes to partially completed (and signed off) test procedure pages. Section 4.3.1.1.4 instructed the user to transcribe the approved change to the test copy using pen and ink. This is conducive to transcription errors and will not be seen by the parties who approved the change. A better method proposed was to supersede the unfinished

portion of the page and insert a copy of the changed page into the procedure.

c. ISU-300A:

Initial review of this procedure revealed seven editorial/typographical errors. Questions of minor significance have been resolved by subsequent revision and/or answers to the RRI.

d. ISU-008A:

The RRI noted that Revision 0 of this procedure did not have any QA hold points or QA surveillance documented by signoff, similar to those contained in the other initial startup test procedures. The applicant indicated that this was intentional due to the size and nature of the Thermal Expansion Test. It was the applicant's intent to furnish QA oversight on a shift-by-shift basis to ensure correct performance of the test. The RRI pointed out the necessity for documented surveillance and provided specifics that could be witnessed and signed off by QA. This issue became resolved to the satisfaction of the RRI when the applicant issued Revision 1 of ISU-008A containing adequate QA provisions. Other than a few editorial/typographical errors, which were passed on to the applicant for correction, there were no problems with this procedure.

No violations or deviations were identified.

4. 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:

- work in progress was being accomplished using approved procedures;
- special precautions for protection of equipment was implemented, and additional cleanliness requirements were being adhered to for maintenance, flushing, and welding activities; and
- 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 books. Key items in the log review were:

- plant status;
- changes in plant status;
- tests in progress; and
- documentation of problems which arise during operating shifts.

No violations or deviations were identified.

5. Plant Status

- a. The applicant was making preparations to conduct a second hot functional test (HFT) in order to complete the preoperational tests and retests requiring hot plant conditions.

On October 28, 1984, while "bumping" the reactor coolant (RC) pumps as part of the RC system filling and venting procedure, number 4 RC pump motor experienced an electrical failure in the stator windings which necessitated replacement of the motor and the consequent delay in the start of the HFT. The RC pump motor was being replaced.

- b. The applicant has scheduled about 44 days to accomplish the HFT which included the open thermal expansion test items, the obtaining of RC pump seal leakoff data, main steam Isolation Valve cycling tests, containment ventilation tests, safety injection check valve tests, auxiliary feedwater system performance tests, and several "dry runs" of tests scheduled subsequent to fuel loading.
- c. Unit No. 1 is 99 percent complete with 403 of 422 areas turned over to operations custody and 319 of 332 subsystems turned over to operations custody.
- d. Unit No. 2 is 65 percent complete. The preoperational test program on systems associated with NRC inspections has not yet started.

6. Exit Interview

An exit interview was conducted October 31, 1984, with applicant representative (identified in paragraph 1). During this interview, the SRRI and RRI reviewed the scope and discussed the inspection findings. The applicant acknowledged the findings.