622

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 24, 1985

Peter B. Bloch, Esq., Chairman
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Herbert Grossman, Alternate Chairman
Administrative Judge
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Elizabeth B. Johnson
Administrative Judge
Oak Ridge National Laboratory
P.O. Box X, Building 3500
Oak Ridge, TN 37830

In the Matter of
Texas Utilities Generating Electric, et al.
(Comanche Peak Steam Electric Station, Units 1 and 2)
Docket Nos. 50-445 and 50-446OL

Dear Administrative Judges:

By letter of March 6, 1985, NRC Staff counsel transmitted copies of NRC Inspection Report 84-45 (March 5, 1985) to the Board. Subsequently, the Staff determined that the discussions for items 6.b.(3), 6.c. and d. were incorrect or omitted in pages 14-16 of the inspection report. The most significant item was the inadvertent omission of item 6.c., which is a discussion on Deviation 445/8415-01. Accordingly, the Staff has issued new pages 14-17 to replace original pages 14-16. See Enclosure 1. Copies of Inspection Report 84-45 which include new pages 14-17 are enclosed for the information of the Board as Enclosure 2. Hence, the original version of Inspection Report 84-45 should be discarded.

Sincerely,

Geary S. Mizuno
Counsel for NRC Staff

Enclosures: As stated

cc w/encls.: Service List

D507

ENCLOSURE 1

In Reply Refer To:
Dockets: 50-445/84-45

SEP 18 1985

Texas Utilities Generating Company
ATTN: Mr. W. G. Counsil
Executive Vice President
400 North Olive, L.B. 81
Dallas, Texas 75201

Gentlemen:

This refers to the NRC Inspection Report 50-445/84-45. Enclosed are new pages 14-17 to provide corrections to the report details, Section 6, Applicant Action on Previous Inspection Findings (items 6.a.(3), b.c., and 6.d). Please replace the original pages 14-16 with new pages 14-17.

Should you have any questions, please contact us.

Sincerely,

Original Signed By:
Richard P. Denise

R. P. Denise, Director
Division of Reactor Safety
and Projects

Enclosure:
As stated

cc:
Texas Utilities Electric Company
ATTN: J. W. Beck, Manager,
Licensing
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

Texas Radiation Control Program Director

b. (Closed) Open Item 445/8415-02: Minor discrepancies found during NRC inspection of station administrative procedures. During a previous inspection (445/84-15) of station administrative procedures, the RRI found several minor discrepancies and made some suggestions to preclude future problems. The applicant took action on those items that the applicant considered justification for implementing a procedure change. For example:

(1) STA-401, "Station Operation Review Committee," Revision 5, Section 4.4 did not fully implement the responsibilities of the committee as stated in the CPSES Unit 1 Technical Specifications (final draft). This was corrected in Revision 8 of STA-401.

(2) STA-203, "Control of Station Manuals," Revision 7, Section 4.3.3 required a notification memo to be sent to each onsite holder of controlled station manuals to alert recipients of a revision or new procedure. This was not being done for holders of the manual who incorporate their own changes because they sign a receipt for the changes or new procedures anyway. Revision 9 clarified this such that the applicant is in compliance with the procedure.

(3) STA-307, "Forms Control," Revision 2, allowed minor changes to forms without revising the parent procedure containing a sample of the form as an attachment. However, instead of changing the revision number of the form itself, the office services staff misinterpreted Section 4.2.6 of STA-307 and changed the revision of the parent procedure attachment page, which caused a conflict with the rest of the parent procedure pages. This was corrected by the applicant and STA-307 was revised to preclude misinterpretation.

This item is closed.

c. (Closed) Deviation 445/8415-01: Failure of the applicant to use SORC approved instructions to perform work on the emergency diesel generators. The CPSES FSAR commits to Regulatory Guide (RG) 1.22, Revision 2, February 1978 with no exceptions. RG 1.33 and ANSI N18.7-1976 to which it refers, requires maintenance to be performed using procedures/instructions receiving the same review and approval as operating instructions, i.e., review and approval by the SORC. During two previous inspections (50-445/84-07 and 50-445/84-15), the NRC inspectors noted that the applicant had defined "instructions" as procedures which do not require SORC approval, and had issued "instructions" to perform work on safety-related equipment such as

the emergency diesel generator (EDG). The apparent basis was that EDG work performed by the maintenance department had no significant impact on other departments, and/or was work unique to the maintenance department. Since the above NRC inspections, the issue has been resolved as evidenced in Station Administrative Procedure STA-707, "Safety Evaluations," (Revision 2), STA-202, "Preparation, Review, Approval, and Revision of Station Procedures" (Revision 10), and the final draft of the CPSES Unit 1 Technical Specifications (TS). In essence, all safety-related procedures and instructions will receive a SORC review by virtue of the requirement that the SORC review the related safety evaluations, as stated in the TS and STA-401, which both list the responsibilities of the SORC.

This deviation is closed.

d. (Closed) Violation 445/8421-02: Failure of preoperational test procedures to provide adequate prerequisites. During a previous inspection (445/84-21), the RRI noted that during conduct of preoperational test 1CP-PT-29-02,RT1, "Diesel Generator (DG) Control Circuit Functional and Start Test" the DG barring device was connected to a portable air compressor instead of the Service Air System. There was no prerequisite step in the test procedure to provide either temporary or permanent air for the barring device, yet it needed air to be tested. Also, during testing of the Service Water System in accordance with 1CP-PT-04-01, RT 1, "Station Service Water (SSW)," a Barton D/P gage did not function due to air binding. There was no prerequisite in the test procedure to ensure the gage was recently filled and vented to assure accurate test data, nor did the Startup Administrative Procedures for writing the test require it. This was a potentially generic problem. The applicant has since revised CP-SAP-7, "Format and Content of Test Instruction/Procedures" to require the appropriate prerequisites. Each organization responsible for review of preoperational test procedures has been instructed to ensure that test prerequisites receive a comprehensive review to ensure system readiness and correct component configuration to assure validity of the test results.

This item is closed.

7. 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 were implemented, and additional cleanliness requirements were being adhered to for maintenance, flushing, and welding activities.

- 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

- documentation of problems which arise during operating shifts

No deviations or violations were found.

8. Plant Status as of December 31, 1984

a. The applicant was at the end of the Thermal Expansion Test sequence and making preparations to roll the main turbine-generator. Details of the testing sequence and problems encountered are discussed in paragraph 2 of this report.

b. Unit No. 1 is 99% complete with 403 of 422 areas and 323 and 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 260 of 332 subsystems for final acceptance.

c. Of the 199 preoperational tests, one is not yet completed on field testing, and 21 are pending review and approval of completed data. Eighteen are pending NRC completed data inspections.

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

Violations	10
Deviations	0
Open items	100
Unresolved	7
Total	117

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

e. Unit No. 2 is 65% complete. The preoperational test program on systems associated with NRC inspections has not yet started.

9. Exit Interview

An exit interview was conducted January 4, 1985, with applicant representatives identified in paragraph 1. During this interview, the RRI and Mr. D. M. Hunnicutt of the Region IV NRC office reviewed the scope and discussed the inspection findings. The applicant acknowledged the findings.

ENCLOSURE 2

Texas Utilities Electric Company

MAR 21 1985

In Reply Refer To:
Docket: 50-445/84-45

Texas Utilities Electric Company
ATTN: M. D. Spence, President, TUGCO
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

Gentlemen:

This refers to the inspection conducted by Messrs. D. L. Kelley and W. F. Smith of this office during the period November 1 through December 31, 1984, of activities authorized by NRC Construction Permit CPPR-126 for the Comanche Peak Facility, Unit 1, and to the discussion of our findings with Messrs. B. R. Clements and J. C. Kuykendall and other members of your staff at the conclusion of the inspection.

Areas examined during the inspection included: (1) witnessing of the thermal expansion test conducted in November and December 1984, (2) review of initial startup test procedures (3) verification of completion of human engineering deficiencies (4) Review of completed preoperational test data (5) applicant actions on previous inspection findings (6) plant tours, and (7) plant status. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors. These findings are documented in the enclosed inspection report.

During this inspection, it was found that certain of your activities were in violation of NRC requirements. Consequently, you are required to respond to these violations, in writing, in accordance with the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Your response should be based on the specifics contained in the Notice of Violation enclosed with this letter.

This violation maybe related to findings identified by the NRC Technical Review Team (TRT). If the issue is considered to be similar, you may respond to this item separately or as part of the Comanche Peak Response Team Action Plan.

One open item is identified in paragraph 2 and one in paragraph 5 of the enclosed inspection report, which will require closure by the NRC inspectors at a later date once the actions are completed by the applicant and a followup inspection has been completed.

The response directed by this letter and the accompanying notice is not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

"Original Signed By:
D. R. HUNTER"

Dorwin R. Hunter, Chief
Reactor Project Branch 2

Enclosure:

Appendix A - Notice of Violation
Appendix B - NRC Inspection Report
50-445/84-45

cc w/enclosure:

Texas Utilities Electric company
ATTN: J. W. Beck, Manager
Licensing
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

Texas Utilities Electric Company
ATTN: B. R. Clements, Vice President, Nuclear
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

APPENDIX A

NOTICE OF VIOLATION

Texas Utilities Electric Company
Comanche Peak Steam Electric
Station, Unit 1

Docket: 50-445/84-45
Construction Permit: CPPR-126

Based on the results of an NRC inspection conducted during the period of November 1, 1984, through December 31, 1984, and in accordance with the NRC Enforcement Policy (10 CFR Part 2, Appendix C), 49 FR 8583, dated March 8, 1984, the following violation was identified:

Failure to provide adequate procedures appropriate to circumstances

10 CFR 50, Appendix "B", Criterion V requires that, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Contrary to the above, an Instrument and Control (I&C) technician received a first degree thermal burn on his forearm while attempting to fill the reference leg on a pressurizer level detector (1-LT-0460) during hot plant conditions using a procedure that did not contain sufficient detail to accomplish the task. The I&C technician was using Instruction No. ICI-2007, "Filling and Venting Level Transmitters and Level Indicating Switches (Wet Leg)" which is a generic procedure that provides general guidelines for filling and venting level instruments. This use of a generic procedure is inappropriate for the circumstances, and appears to have directly contributed to the technician receiving thermal burns because he connected the low pressure fill equipment incorrectly and manipulated the wrong valves. This action resulted in the low pressure fill equipment being blown off and releasing hot reactor coolant to the containment atmosphere. The I&C technician received thermal burns to his arm from the hot reactor coolant.

This is a Severity Level IV Violation. (Supplement II.E) (445/8445-02)

Pursuant to the provisions of 10 CFR 2.201, Texas Utilities Electric Company is hereby required to submit to this office, within 30 days of the dates of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

Dated: MAR 21 1985

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

NRC Inspection Report: 50-445/84-45 Construction 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: November 1 through December 31, 1984

Inspectors: for L. W. Hunnicutt 2/5/85
D. L. Kelley, Senior Resident Reactor Inspector (SRRI) Date
(paragraphs 1, 2, 7, and 8)

for L. W. Hunnicutt 2/5/85
W. F. Smith, Resident Reactor Inspector (RRI) Date
(paragraphs 1, 2, 3, 4, 5, 6, 7, 8, and 9)

Approved: L. W. Hunnicutt 2/5/85
D. M. Hunnicutt, Section Chief, Reactor Project Section B Date

Inspection Summary

Inspection Conducted: November 1 through December 31, 1984 (Report 50-445/84-45)

Areas Inspected: Routine, unannounced inspection of (1) the Thermal Expansion Test conducted during November and December 1984, (2) Initial Startup

Procedures (3) corrected Human Engineering Deficiencies, (4) completed preoperational test data, (5) applicant actions on previous inspection findings, (6) plant tours, and (7) plant status. The inspection involved 109 inspector-hours by two NRC inspectors.

Results: Within the 7 areas inspected, one violation was identified (failure to provide adequate procedures, paragraph 2). In addition, two open items exist; one in paragraph 2 and one in paragraph 5 pending applicant action.

DETAILS

1. Persons Contacted

Applicant Personnel

*B. R. Clements, Vice President, Nuclear Operations
*J. C. Kuykendall, Manager, Nuclear Operations
*C. H. Welch, Quality Assurance Supervisor
*J. C. Smith, Quality Assurance
*R. B. Seidel, Operations Superintendent
*H. A. Lancaster, Startup Quality Assurance Specialist
*J. M. Ward, Startup Quality Assurance Specialist
*R. E. Camp, Startup Manager
*S. M. Franks, Special Project and Technical Support Lead
R. R. Wistrand, Administration Superintendent
J. J. Allen, Operations Engineer
*R. A. Jones, Manager, Plant Operations
*J. T. Merritt, Assistant Project General Manager
*L. G. Barnes, Operations Supervisor
*T. Gosdin, Coordinator, Public Information
D. W. Braswell, Engineering Superintendent
J. C. Zimmerman, ISU Coordinator
D. B. Allen, ISU Test Coordinator
B. J. Browning, Thermal Expansion Test Engineer
M. R. Blevins, Maintenance Superintendent
B. Taylor, I&C Supervisor
M. D. Deen, Shift Supervisor
A. W. Rosette, Operations Engineer

*Denotes those present at exit interview.

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

2. Witnessing of Thermal Expansion Test

During the period of this inspection the applicant conducted a series of pre-fuel load initial startup tests at reactor system temperatures and pressures ranging from ambient to hot standby. The principle test conducted in the 1984 was Thermal Expansion Testing (and Retesting) that was not completed during the 1983 hot functional test (HFT). In addition, other retests requiring hot standby conditions were completed thereby reducing the extent of hot plant testing that would be deferred until after initial fueling. The sequence was of approximately 54 days duration, as planned by the applicant.

The objectives of this inspection were to establish through observations, records reviews, and independent checks that the testing was conducted in accordance with approved procedures, and to evaluate the performance of the applicant's personnel involved in test performance. The final NRC inspection of test results will be conducted during a subsequent period after the Station Operations Review Committee (SORC) has completed its review of the data. The performance of these objectives were accomplished on a sampling basis. The SRRI and RRI determined that testing appeared to be conducted in a careful and controlled manner, with minimal problems as noted in paragraph 2.b below.

a. The following tests were conducted:

(1) ISU-300A, "Pre-Fuel Load Initial Startup Test Sequence." The objectives of this test were to provide an overall sequencing of all the other tests to be conducted, to establish and maintain the plant conditions for testing, and to verify acceptable reactor coolant pump seal flow.

(2) ISU-008A, "Thermal Expansion". The purpose of this test was to verify that the ASME Code Class 1, 2, and 3 systems and other nonsafety class systems which operate at temperatures greater than 200°F were not restrained during heatup to normal operating temperature or during cooldown to ambient conditions. This procedure included verification that loads and clearance gaps of selected piping system snubbers, spring hangers and pipe rupture restraints were properly set for free pipe movement. Component checks consisted of items requiring retest after the preoperational test conducted during the 1983 HFT (1CP-PT-55-11, "Thermal Expansion") and items which were not covered by that test. Measurements will be taken at an initial ambient temperature, and plateaus of 250°F, 350°F, 450°F and at normal operating temperature. A final set of readings was taken after cooldown to ambient temperature.

(3) ISU-206A, "Auxiliary Feedwater Performance" The purpose of this test was to verify that five consecutive cold quick starts of Turbine Driven Auxiliary Feedwater (TDAFW) pump could be performed and that 1-LV-2383 (condensate drain valve) functioned properly during each of these starts to drain condensate from the steam supply lines.

This test also verified that the time delay from receiving a start signal until the TDAFW pump delivered rated flow at rated pressure was less than 60 seconds. The time delay was determined for both trains and will be a summation of all system delays including channel sensor and actuation logic.

(4) ISU-220A, "Turbine Generator Initial Synchronization and Overspeed Test". The objectives during this testing sequence were to obtain turbine baseline data and to verify the proper operation and adjustment of the turbine generator system and its associated auxiliary and support systems to the extent practicable during noncritical hot plant conditions.

(5) ISU-234A, "Main Steam Isolation Valves Operability and Response Times." The purpose of this test was to verify that the full stroke closure times of the Main Steam Isolation Valves and Main Steam Isolation Bypass Valves were within the limits specified in the Comanche Peak Steam Electric Station (CPSES) Final Safety Analysis Report and Technical Specifications for Comanche Peak - Unit 1. This test also was to demonstrate the operability of each Main Steam Isolation Valve and each Main Steam Isolation Bypass Valve.

(6) ISU-282A, "Containment & Feed Water (FW) Penetration Room Temperature Survey" With the RCS at the normal operating temperature and pressure, the objective of this test was to demonstrate that the various cooling systems were maintaining temperatures at or below their design limits in the following areas: (a) reactor coolant pipe penetrations; (b) containment average air temperature; (c) neutron detector wells; (d) each steam generator compartment; (e) the pressurizer room at the 905 foot elevation; and (f) supply air to each reactor vessel support.

(7) EGT-712A, "Reactor Coolant System Pressure Isolation Valve Leakage Testing." This was a retest of repaired or replaced Safety Injection System check valves which did not meet the acceptance criteria while being tested during the original HFT of 1983.

In addition to the specific tests above, the applicant took the opportunity to exercise several integrated plant operation and standard operating procedures to confirm or correct their accuracy and adequacy. Also a few dry runs were conducted on pending initial Startup test procedures to help minimize procedure problems after the fuel is loaded.

b. The applicant conducted weekly status and problem review meetings between the NRC resident inspectors and key managers including the Manager, Plant Operation, Engineering Superintendent, Maintenance Superintendent, Operations Superintendent, and Operations Supervisor.

This meeting provided an opportunity for the RRI and SRRI to assess applicant management involvement in the test sequence, and to address NRC inspection concerns and actions taken by the applicant, and to keep abreast of management decisions which affect testing plans for the week that followed. The following problems were encountered:

(1) Failed Reactor Coolant Pump Motor: During the early phases of reactor coolant system (RCS) fill in preparation for this testing sequence, No. 4 reactor coolant pump motor tripped due to arcing in the stator. This was apparently caused by a foreign piece of metal resembling a washer which may have damaged the stator insulation. This appears to be an unusual, isolated occurrence provided an electrical path to ground. The motor has an open type enclosure. The motor was replaced and retested.

(2) The No. 1 Residual Heat Removal (RHR) pump tripped upon starting due to an apparent upper wear ring failure. The applicant is reviewing the problem as to cause and will report it as required by the regulations.

(3) There were two cases of failure to maintain adequate procedural control of plant conditions:

ISU-008, "Thermal Expansion" did not address the required charging/letdown path and as such the paths were selected in accordance with the plant operating procedures. As a result, the lineup had to be changed to accommodate the test. Plant temperature stability, as defined in the test, was lost. The only consequence was about a 4-hour delay in reestablishing stable temperature conditions which are prerequisites to the test.

ISU-008 also failed to address the fact that RHR cross connection valve 8716A was to be open for the test, because the integrated plant operating procedure used to establish conditions required the valve to be shut. When it became apparent that the valve should be opened, verbal miscommunications between test and operating personnel resulted in a second delay in establishing stable temperatures for the expansion test.

These problems were discussed with the ISU Coordinator, as well as TUEC management. TUEC committed to ensure that all test procedures will be checked and revised as necessary to identify any valve or breaker positions required that are not normally provided by the operating procedures referenced by the test

procedures. The NRC inspectors did not observe this problem any further and thus considered the corrective action of the applicant to be adequate in this area.

(4) Main Steam Isolation Valve (MSIV) cycling met the acceptance criteria, after correcting minor mechanical problems pending final review and approval of the data, but the bypass valves (MSIBV) did not. The applicant is evaluating and has made informal comments to the RRI that a design change to manual valves will be implemented.

(5) During thermal expansion testing, at the various temperature plateaus, of ambient, 250°F, 350°F, 450°F, and normal operating temperature, numerous support snubbers and restraints required some rework and retesting. By the end of the sequence most had been corrected and retested, except in some cases where it was impractical or unsafe (due to hot surfaces) to make adjustments. The latter cases have been identified and will become part of what now appears to be a potentially small test deferral package for postfueling hot functional testing.

(6) During starting of the Turbine Driven Auxiliary Feedwater (TDAFW) pump, in accordance with ISU-206A, the pump manual discharge valve IAF-041 was discovered locked shut. This valve was recorded by the operators as "locked open" on the valve lineup sheet provided by the system operating procedure. The RRI noted this in the shift supervisor's logs about one 8-hour shift later,and questioned the shift supervisor in charge of the subsequent shift whether or not a deviation report (DR) had been initiated, as required by Administrative Procedure STA-404, "Control of Deficiencies." The shift supervisor indicated that he would check into it and if necessary, initiate the appropriate reports. He further stated that the cause appeared to be confusion over which way to turn the valve handwheel due to the reach rod linkage, and the valve being overhead, rather than a violation of the system operating procedure. IAF-041 is an 8" rising stem overhead valve with several reach rod links with universal joints to get the handwheel within easy access. The RRI inspected the valve. Although it may be difficult to check whether the valve is shut, the operator should not have a problem checking whether the valve is open by looking for inward stem movement because he can always attempt to shut the valve and see some stem movement. There is no apparent reason for this problem, other than failure on the part of the operator to check the valve position in a positive manner. Discussions between the RRI and the applicant brought out a need for the applicant to take definitive corrective action to preclude future valve lineup problems and to ensure that all such

problems are documented in a timely manner by shift supervisors with first-hand knowledge of the problems. At the discussion it was pointed out by the RRI that the shift supervisor appears to be burdened with an analysis of the problem and possible corrective actions for the purpose of deciding in what format the problem must be reported, i.e., Deficiency Report, Nonconformance Report, or Problem Report. These reports are controlled by three different administrative procedures. The applicant indicated that action will be taken to provide the shift supervisors with simpler reporting instructions. The applicant has committed to the above corrective actions. This is an Open Item (445/8445-01).

(7) Pressurizer level indicator 1-LT-0460 did not compare favorably with the redundant level channels as RCS pressure increased to near normal operating pressure. Troubleshooting the piping for the detector revealed a leaking drain valve which was tightened thereby stopping the leak, but the reference leg needed to be filled. Upon attempting to fill the reference leg in accordance with a generic "basic guidelines" procedure, an Instrument and Control (I&C) Technician connected low pressure fill equipment incorrectly to the detector piping and then operated the wrong instrument valves. This action resulted in the low pressure fill tubing being blown off and the I&C technician received thermal burns to his arm from hot reactor coolant. The personnel safety and postulated radiological implications of this type of problem after initial criticality was discussed with the applicant's representatives. As a result of this discussion, Deficiency Report 84-127 was written. Instruction No. ICI-2007, "Filling and Venting Level Transmitters and Level Indicating Switches (Wet Leg)" is not adequate to assure proper controls over quality and radiological safety, and using such a procedure is in violation of 10 CFR 50, Appendix B, Criterion V. This is a Violation (445/8445-02).

3. Review of Initial Startup Test Procedures

During the month of October, 1984, the RRI conducted a review of test and administrative procedures to be used in the control of the Thermal Expansion Test and other hot plant tests. The results are listed in NRC Inspection Report 445/84-39. The RRI inspected the following procedures during November 1984 to complete the review:

ISU-206A, "Auxiliary Feedwater Performance" (Revision 2)
ISU-282A, "Containment & F.W. Penetration Room Temperature Survey" (Revision 1)

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, (4) adequate Quality Assurance provisions were incorporated as committed in the FSAR, and (5) there were no major technical or editorial errors.

No violations or deviations were identified.

4. Verification of Completion of Human Engineering Deficiencies

The Human Factors Control Room Design Review of CPSES, conducted by the Human Factor Engineering Branch of the NRC, identified many Human Engineering Discrepancies (HEDs).

NRC Inspection Report 445/84-31 reported that as of August 31, 1984, all but 23 prelicensing HEDs had been closed by the Human Factor Engineering Branch, and that the remaining HEDs will be verified by the resident inspectors and documented in future inspection reports.

As of December 31, 1984, 20 of the 23 remaining HEDs have been verified by the RRI as satisfactorily completed by personal observation of the installed hardware. There are now 3 HEDs remaining to be closed. The following is a listing of the HEDs remaining to be verified:

88. HED DESCRIPTION

Trend recorder scale differs from chart paper scale.

ACTION

Confirmatory on recorders having paper matching recorder scales (all recorders should have paper), including Hot Shutdown Panel (HSP).

Note: HED 122 was closed with exception of "proper paper in recorders" which will be verified as a part of this HED.

181. HED DESCRIPTION

The nuclear instrumentation system recorder lacks a scale for differential power.

ACTION

Confirmatory on installation of a scale for differential power.

184. HED DESCRIPTION

Counters require calculations by the operator when displayed values run past 60 minutes. Other counters require the operator to convert

displayed values by multiplication factors other than a multiple of ten.

ACTION

Confirmatory on full scale counters replacing 0.5 scale counters on CPS-01.

The following is a listing of the HEDs that have been completed and then verified by the NRC resident inspector:

3. HED DESCRIPTION

Annunciator alarms are not visually prioritized.

ACTION

Verified completion of annunciator prioritization.

68. HED DESCRIPTION

No storage space has been allocated for essential material.

ACTION

Verified installation of portable storage unit and storage of equipment at the HSP.

80. HED DESCRIPTION
Pointers on "J" handle/star/handle switches contrast poorly with handle color.

ACTION

Verified "J" handle/star handle pointers being painted white.

93. HED DESCRIPTION

No control coding is currently being used for:

- o Mechanical valves, pumps, breakers, motors, etc.
- o Throttle valves
- o Emergency or critical controls

ACTION

Verified installation of "T" handles on transfer switches at the HSP (14 handles).

106. HED DESCRIPTION

Labels are missing.

ACTION
Verified labels on recorders on CV-01, incore panel, and for lights on CV-03.

120. HED DESCRIPTION

Sound powered jack communications are incomplete.

ACTION

Verified storage of sound powered headset at the HSP (see no. 68 above).

122. HED DESCRIPTION

The HSP is in the process of complete redesign.

ACTION

Verified completion of Hierarchical labeling at HSP and transfer panels, labeling of light box, proper paper in recorders (see no. 88 above), and sound powered headsets at HSP (see no. 68 above), and transfer panel.

Note: "Proper paper in recorders" has not been completed. This action was moved to HED no. 88 so that item 122 could be closed.

130. HED DESCRIPTION

Controls have unlabeled switch positions.

ACTION

Verified new escutcheon plates for 1-HS-2491 through 1-HS-2494 on CB-09.

214. HED DESCRIPTION

A rotary control with clockwise-counter clockwise movement is used to control a "lower" and "raise" function.

ACTION

Verified permanent escutcheon plates on CB-11 (90-1EG2 and 65-1EG2).

225. HED DESCRIPTION

The locking position or function of the vernier controllers is not clearly indicated.

ACTION

Verified "LOCK" position labels on Hagan controllers.

226. HED DESCRIPTION

Setpoint adjustment knob covers on process controllers can be easily removed.

ACTION

Verified more secure attachment of setpoint adjustment knob covers on controllers.

267. HED DESCRIPTION

Trend recorders used frosted glass.

ACTION

Verified replacement of frosted glass with clear glass on recorders on CB-10.

321 HED DESCRIPTION

Annunciator character sizes are inconsistent.

ACTION

Verified re-engraving of annunciator tiles

1-ALB-2:	3.7
1-ALB-3B	2.6
1-ALB-4A	4.4
1-ALB-4B	1.5, 2.6, 3.6
1-ALB-5B	2.1, 3.4
1-ALB-5C	3.1, 4.2
1-ALB-6C	1.2, 1.3, 2.1, 2.2, 2.7, 3.2, 3.3, 3.7, 4.2
1-ALB-6D	1.4, 1.10, 1.14, 2.4, 2.13, 2.14, 3.13, 3.14, 4.13
1-ALB-8	1.13, 2.13, 2.14, 3.14, 4.14
1-ALB-9	1.4, 1.8, 1.11, 4.1, 7.6

345. HED DESCRIPTION

Abbreviations in computer displays do not conform to those in the Comanche Peak Steam Electric Station (CPSES) "Directory of Acronyms and Abbreviations."

ACTION

Verified revision of point descriptions in P2500 to use CPSES abbreviations.

5. Preoperational Test Results Evaluation

The RRI reviewed the following completed test package, 1CP-PT-66-01, "Nuclear Instrumentation System," which has been approved by the Joint Test Group (JTG). Attributes inspected included: (1) adequacy of the evaluation of test results, (2) assurance that test data met acceptance criteria, (3) assurance that deviations were properly identified and resolved, and (4) the applicant's administrative practices with respect to test execution and data evaluation were adequate.

The test package met the attributes above, with one apparent exception. A Test Procedure Deviation (TPD-03) was written to delete the requirement to take data in paragraphs 7.1.7.5 and 7.2.7.5 of the procedure, because the source range meters that were installed in the Hot Shutdown Panel did not function properly. The meters did not have the proper signal input ratings. This was documented on a Test Deficiency Report (TDR 3014). TDR-3014 stated that the retest would be per TDR-3547. TDR-3547 was written because when the proper meters finally were installed, they would load down the circuit and cause erroneous readings. The retest specified on TDR-3547 was lined out, leaving an open-ended paper trail. The applicant's representative has committed to take action to correct this problem. This is an Open Item (445/8445-03).

No violations or deviations are apparent at this time.

6. Applicant Action on Previous Inspection Findings

a. (Closed) Unresolved Item 445/8424-02: Apparent conflict between FSAR Figure 6.3-5 and the Safety Injection Pump 01 performance curve. During a previous inspection (445/84-24) of the completed test data of preoperational test procedure 1CP-PT-57-01, "Safety Injection Pump Performance," the NRC inspector noted that the Safety Injection Pump 01 performance curve in the completed test data did not meet the minimum acceptable performance curve of Figure 6.3-5 of the FSAR. Since the time of the inspection, Amendment 53 of the FSAR (dated November 5, 1984) changed the pump curve. The performance data and curves in the completed test package for 1CP-PT-57-01 now meet the requirements of the FSAR. This item is closed.

b. (Closed) Open Item 445/8415-02: Minor discrepancies found during NRC inspection of station administrative procedures. During a previous inspection (445/84-15) of station administrative procedures, the RRI found several minor discrepancies and made some suggestions to preclude future problems. The applicant took action on those items that the applicant considered justification for implementing a procedure change. For example:

(1) STA-401, "Station Operation Review Committee," Revision 5, Section 4.4 did not fully implement the responsibilities of the committee as stated in the CPSES Unit 1 Technical Specifications (final draft). This was corrected in Revision 8 of STA-401.

(2) STA-203, "Control of Station Manuals," Revision 7, Section 4.3.3 required a notification memo to be sent to each onsite holder of controlled station manuals to alert recipients of a revision or new procedure. This was not being done for holders of the manual who incorporate their own changes because they sign a receipt for the changes or new procedures anyway. Revision 9 clarified this such that the applicant is in compliance with the procedure.

(3) STA-307, "Forms Control," Revision 2, allowed minor changes to forms without revising the parent procedure containing a sample of the form as an attachment. However, instead of changing the revision number of the form itself, the office services staff misinterpreted Section 4.2.6 of STA-307 and changed the revision of the parent procedure attachment page, which caused a conflict with the rest of the parent procedure pages. This was corrected by the applicant and STA-307 was revised to preclude misinterpretation.

This item is closed.

c. (Closed) Deviation 445/8415-01: Failure of the applicant to use SORC approved instructions to perform work on the emergency diesel generators. The CPSES FSAR commits to Regulatory Guide (RG) 1.22, Revision 2, February 1978 with no exceptions. RG 1.33 and ANSI N18.7-1976 to which it refers, requires maintenance to be performed using procedures/instructions receiving the same review and approval as operating instructions, i.e., review and approval by the SORC. During two previous inspections (50-445/84-07 and 50-445/84-15), the NRC inspectors noted that the applicant had defined "instructions" as procedures which do not require SORC approval, and had issued "instructions" to perform work on safety-related equipment such as

the emergency diesel generator (EDG). The apparent basis was that EDG work performed by the maintenance department had no significant impact on other departments, and/or was work unique to the maintenance department. Since the above NRC inspections, the issue has been resolved as evidenced in Station Administrative Procedure STA-707, "Safety Evaluations," (Revision 2), STA-202, "Preparation, Review, Approval, and Revision of Station Procedures" (Revision 10), and the final draft of the CPSES Unit 1 Technical Specifications (TS). In essence, all safety-related procedures and instructions will receive a SORC review by virtue of the requirement that the SORC review the related safety evaluations, as stated in the TS and STA-401, which both list the responsibilities of the SORC.

This deviation is closed.

d. (Closed) Violation 445/8421-02: Failure of preoperational test procedures to provide adequate prerequisites. During a previous inspection (445/84-21), the RRI noted that during conduct of preoperational test 1CP-PT-29-02,RT1, "Diesel Generator (DG) Control Circuit Functional and Start Test" the DG barring device was connected to a portable air compressor instead of the Service Air System. There was no prerequisite step in the test procedure to provide either temporary or permanent air for the barring device, yet it needed air to be tested. Also, during testing of the Service Water System in accordance with 1CP-PT-04-01, RT 1, "Station Service Water (SSW)," a Barton D/P gage did not function due to air binding. There was no prerequisite in the test procedure to ensure the gage was recently filled and vented to assure accurate test data, nor did the Startup Administrative Procedures for writing the test require it. This was a potentially generic problem. The applicant has since revised CP-SAP-7, "Format and Content of Test Instruction/Procedures" to require the appropriate prerequisites. Each organization responsible for review of preoperational test procedures has been instructed to ensure that test prerequisites receive a comprehensive review to ensure system readiness and correct component configuration to assure validity of the test results.

This item is closed.

7. 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 were implemented, and additional cleanliness requirements were being adhered to for maintenance, flushing, and welding activities.

- 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

- documentation of problems which arise during operating shifts

No deviations or violations were found.

8. Plant Status as of December 31, 1984

a. The applicant was at the end of the Thermal Expansion Test sequence and making preparations to roll the main turbine-generator. Details of the testing sequence and problems encountered are discussed in paragraph 2 of this report.

b. Unit No. 1 is 99% complete with 403 of 422 areas and 323 and 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 260 of 332 subsystems for final acceptance.

c. Of the 199 preoperational tests, one is not yet completed on field testing, and 21 are pending review and approval of completed data. Eighteen are pending NRC completed data inspections.

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

Violations	10
Deviations	0
Open items	100
Unresolved	7
Total	117

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

e. Unit No. 2 is 65% complete. The preoperational test program on systems associated with NRC inspections has not yet started.

9. Exit Interview

An exit interview was conducted January 4, 1985, with applicant representatives identified in paragraph 1. During this interview, the RRI and Mr. D. M. Hunnicutt of the Region IV NRC office reviewed the scope and discussed the inspection findings. The applicant acknowledged the findings.